

# StorageTek Nearline Control Solution

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Installation Guide

Version 6.2



June 2010  
Revision C

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# Preface

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Oracle's StorageTek Nearline Control Solution (NCS) is a solution consisting of the following base software:

- Oracle's StorageTek Storage Management Component (SMC)

SMC is the interface between IBM's OS/390 and z/OS operating system and StorageTek real and virtual tape hardware. SMC performs the allocation processing, message handling, and SMS processing for the NCS solution. It resides on the MVS host system with HSC and/or MVS/CSC, or on a remote system using the StorageTek HTTP server to communicate with the HSC. SMC communicates with HSC or MVS/CSC to determine policies, volume locations, and drive ownership. SMC is a required NCS component.
- Oracle's StorageTek Host Software Component (HSC)

HSC controls the Automated Cartridge System (ACS). It runs as a subsystem on MVS. The library database records cell status, characteristics, and disposition of all cartridges stored in the library. For the purposes of this publication, HSC refers to the MVS implementation of the StorageTek Host Software Component.
- Oracle's StorageTek HTTP Server for OS/390 and z/OS  

The StorageTek HTTP Server for OS/390 and z/OS optionally provides the middleware to allow communication between the SMC (client) and a remote HSC subsystem (server). It executes as a separate subsystem on the MVS host where the remote HSC subsystem resides.
- Oracle's StorageTek LibraryStation  

LibraryStation provides a communications interface between HSC and a client system running an open systems host (either MVS or open systems), allowing network clients to access the library services of a StorageTek Automated Cartridge System (ACS) through the MVS host system. LibraryStation can communicate with the MVS/CSC in an MVS-only environment, or the SMC and the StorageTek HTTP server can provide communication between MVS hosts. LibraryStation executes in the HSC address space on MVS.
- Oracle's StorageTek MVS Client System Component (MVS/CSC)  

MVS/CSC provides client functions and communications between an MVS host and the Library Control System (LCS) or server residing on another MVS or non-MVS host. When combined with the LCS, MVS/CSC allows the MVS client to perform automatic tape handling on a StorageTek library product. In addition, the library can be shared by multiple host systems (both IBM and non-IBM). The MVS/CSC can communicate with LibraryStation in an MVS-only environment, or the SMC and the StorageTek HTTP server can provide communication between MVS hosts.

This publication describes how to install NCS from tape or CD-ROM. It is intended for storage administrators, system programmers and operators responsible for installing and configuring NCS.

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## Related Documentation

The following list contains the names of publications that provide additional information about ELS.

The documentation is available online at:

<http://docs.sun.com>

### StorageTek Nearline Control Solution (NCS)

- *NCS User Exit Guide*
- *NCS/VTCS XML Guide*

### StorageTek Storage Management Component (SMC)

- *SMC Configuration and Administration Guide*  
(This publication includes information for the StorageTek™ HTTP Server)

### StorageTek Host Software Component (HSC)

- *HSC Configuration Guide*
- *HSC Operator's Guide*
- *HSC System Programmer's Guide*
- *HSC Messages and Codes Guide*

### StorageTek LibraryStation

- *LibraryStation Configuration and Administration Guide*

### StorageTek Client System Component for MVS (MVS/CSC)

- *MVS/CSC Configuration Guide*
- *MVS/CSC Operator's Guide*
- *MVS/CSC System Programmer's Guide*
- *MVS/CSC Messages and Codes Guide*

## StorageTek Virtual Tape Control System (VTCS)

- *Beyond the Basics - VTCS Leading Edge Techniques*
- *Installing and Configuring VTCS*
- *Introducing VTCS*
- *Managing VTCS*
- *VTCS Messages and Codes Guide*
- *VTCS Command and Utility Reference*

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## Documentation, Support, and Training

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<b>Function</b>	<b>URL</b>
Oracle Home	<a href="http://oracle.com">http://oracle.com</a>
Documentation	<a href="http://docs.sun.com">http://docs.sun.com</a>
Support	<a href="http://www.sun.com/support">http://www.sun.com/support</a>
Training	<a href="http://www.oracle.com/global/us/education/sun_select_country.html">http://www.oracle.com/global/us/education/sun_select_country.html</a>

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# Additional Information

## Customer-initiated Maintenance

Customer-initiated maintenance begins with a telephone call from you to Oracle StorageTek Support. You receive immediate attention from qualified Oracle personnel, who record problem information and respond with the appropriate level of support.

To contact Oracle StorageTek Support about a problem:

1. Use the telephone and call:

**☎ 800.872.4786 (1.800.USA.4SUN)** (inside the United States)

**☎ 800.722.4786** (Canada)

For international locations:

<http://www.sun.com/contact/support.jsp>

2. Describe the problem to the call taker. The call taker will ask several questions and will either route your call to or dispatch a support representative.

If you have the following information when you place a service call, the process will be much easier:

---

Account name	_____
Site location number	_____
Contact name	_____
Telephone number	_____
Equipment model number	_____
Device address	_____
Device serial number (if known)	_____
Urgency of problem	_____
Fault Symptom Code (FSC)	_____
Problem description	_____
	_____
	_____
	_____

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# Conventions for Reader Usability

## Typographic

Some JCL examples in this guide include *italic* type. Italic type is used to indicate a variable. You must substitute an actual value for these variables.

The use of mixed upper and lower case characters for commands, control statements, and parameters indicates that lower case letters may be omitted to form abbreviations. For example, you may simply enter POL when executing the POLicy command.

## Control Statements

The standard syntax conventions for control statements are as follows:

- The only valid control statement information area is from column 1 to column 72. Columns 73-80 are ignored.
- Parameters may be separated by one or more blanks or a comma.
- A value is associated with a parameter by an equal (=) sign or by enclosing the value in parentheses, and concatenating it immediately after the parameter.
- Case (upper or lower) is ignored in actual control statements.
- Continuations are supported by including a plus (+) sign at the end of the line to be continued. A control statement is terminated if the statement is not continued.
- /\* and \*/ can be used to enclose comments in the job stream. Comments can be continued over multiple lines, but cannot be nested.

PARMLIB members **must** include a /\*...\*/ comment as the **first** control statement. Otherwise, the old format is assumed. Comments in the old format must begin with an asterisk (\*) in column 1.

For definition data sets (e.g., VOLATTRs, UNITATTRs and TAPEREQs), comments **must** be in the new format (/\*...\*/).

- Asterisk (\*) comments are **not** allowed.
- A /\*...\*/ comment in the first line is **not** required.
- The maximum length for a control statement is 1024 characters.



# What's New?

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NCS Release 6.2 installation includes the following enhancements:

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## Revisions B and C

These revisions contain minor technical updates and corrections.

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## Revision A

<b>Enhancement</b>	<b>Primary Location</b>
The SMX FMID is no longer supported. SMC-specific functions for the StorageTek HTTP Server are now provided by the SMC6200 FMID.	<a href="#">"Reviewing the NCS FMIDs" on page 20</a>
The NCSAPPLY and NCSACCPT installation sample members now include JES3.	<a href="#">"Applying the NCS Functions" on page 22</a> <a href="#">"Accepting the NCS Functions" on page 22</a>
NCS 6.2 may be installed from tape or CD-ROM. CD-ROM installation procedures are included in this guide.	<a href="#">"Unloading the SMP/E JCL Library" on page 10</a>



# Performing Pre-Installation Tasks

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## Overview

This chapter describes the tasks required in preparation for NCS installation. The following topics are included:

- Installation checklist
- Pre-installation considerations
- Hardware and software requirements
- Virtual storage requirements
- Installation materials
- Unloading the SMP/E JCL library
- Preparing the SMP/E CSI environment
- Allocating NCS target and distribution library data sets and required DDDEF entries
- Updating the SYSLIB concatenation

# Installation Checklist

Use the following checklist to verify that you have completed all NCS installation tasks.

**Note** – Sample members beginning with “NCS” apply to all NCS products. Follow the instructions in the prologue of each sample member to specify only those functions you wish to install.

**TABLE 1-1** Installation Checklist

✓	Step	Description	Sample Member	Page
	1	Review pre-installation considerations.		3
	2	Verify NCS software and hardware requirements.		4
	3	Verify NCS virtual storage requirements.		6
	4	Review NCS Installation Materials.		7
	5	Unload the SMP/E JCL library from tape or CD-ROM.		10
	6	Define and initialize the SMP/E CSI.	ALLOCCSI	14
	7	Allocate the NCS target and distribution library data sets and their required DDDEF entries.	NCSDDDEF NCSJ3DEF (JES3)	15
	8	Update the SYSLIB concatenation.	ALLSYSLB	18
	9	Review the NCS FMIDs.		20
	10	SMP/E RECEIVE the desired base functions, communication functions, and optionally, the SMC JES3 function.	NCSRECV (tape) NTSNCS (CD)	21
	11	SMP/E RECEIVE maintenance for the NCS base functions. (See Note on page 21)	MAINTRCF MAINTRCS	83
	12	SMP/E APPLY the desired base functions, communication functions, and optionally, the SMC JES3 function.	NCSAPPLY	22
	13	SMP/E ACCEPT the desired base functions, communication functions, and optionally, the SMC JES3 function.	NCSACCPT	22
	14	SMP/E APPLY maintenance for the NCS base functions.	MAINTAPF MAINTAPS	84
	15	Optionally, SMP/E ACCEPT maintenance for the base functions.	MAINTACF MAINTACS	85
	16	Proceed with the post-installation tasks described in Chapters 4-8.		

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## Pre-Installation Considerations

- Contact StorageTek Support for information about additional PTFs that might be required before installing the NCS product components.
- SMC is a required NCS component and **must** be installed.
- If you are using VSM in your NCS environment, refer to the *Installing and Configuring VTCS* guide for installation and configuration considerations.
- Use the MVS Program Binder when installing NCS products and maintenance. Failure to do so may result in link-editing errors.
- If you are migrating from a previous NCS software release, study the appropriate migration and coexistence guidelines in the following publications:
  - *SMC Configuration and Administration Guide*
  - *HSC Configuration Guide*
  - *LibraryStation Configuration and Administration Guide*
  - *MVS/CSC Configuration Guide*

# NCS Software and Hardware Requirements

## Software Requirements

NCS software requirements include the following:

Category	Supported Software
Operating system	All IBM-supported versions of z/OS (JES2 and JES3 environments)
Required software	<ul style="list-style-type: none"> <li>■ SMC 6.2</li> <li>■ HSC 6.2</li> </ul>
Optional software	<ul style="list-style-type: none"> <li>■ HTTP Server</li> <li>■ LibraryStation 6.2</li> <li>■ MVS/CSC 6.2</li> <li>■ VTCS 6.2</li> </ul>
TCP/IP communications	<ul style="list-style-type: none"> <li>■ IBM TCP/IP Release 3.1 or higher</li> <li>■ CA Unicenter TCPaccess Communications Server Release 5.0 or higher</li> <li>■ CA Unicenter TCPaccess X.25 Server Release 1 or higher</li> </ul>
SNA LU 6.2 communications	<ul style="list-style-type: none"> <li>■ IBM ACF/VTAM Release 3.4.2 or higher</li> <li>■ IBM APPC/MVS communication services</li> </ul>
XCF communications	IBM XCF Services
HSC Server System Communications	<ul style="list-style-type: none"> <li>■ IBM ACF/VTAM Release 3.4.2 or higher.</li> <li>■ LMU Microcode Release 1.5.x or higher is required for multiple-level host-to-host communications.</li> </ul>

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### Note –

- TCP/IP, SNA LU 6.2, or XCF is required for communication when using MVS/CSC with HSC and LibraryStation in a client/server environment.
  - If you are using TCP/IP for communication between HSC/LibraryStation and the MVS/CSC, the TCP/IP Portmapper **must** be active on both the server and client.
-

# NCS Hardware Requirements

NCS hardware requirements include the following:

Category	Supported Hardware
Processor	IBM or compatible processor running MVS (any IBM-supported version of z/OS)
StorageTek Library Storage Modules (LSMs)	<ul style="list-style-type: none"> <li>■ SL3000 modular library system</li> <li>■ SL8500 modular library system</li> <li>■ PowderHorn™ 9310</li> <li>■ TimberWolf™ 9740</li> <li>■ WofCreek™ 9360</li> <li>■ Standard 4410</li> </ul>
StorageTek transports and associated media	<ul style="list-style-type: none"> <li>■ T10000A/B</li> <li>■ T9940A/B</li> <li>■ T9840A/B/C/D</li> <li>■ TimberLine™ 9490EE</li> <li>■ TimberLine™ 9490</li> <li>■ 4490</li> <li>■ 4480</li> <li>■ SD3</li> </ul>

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**Note –**

- An ACS can contain mixed library transports and media.
  - Refer to the *HSC Operator's Guide* for more information about HSC support for the SL8500 and SL3000 libraries.
  - Refer to the *HSC Configuration Guide* for SL8500 and SL3000 configuration information.
-

# NCS Virtual Storage Requirements

MVS virtual storage requirements for the NCS software include the following:

NCS Software	Virtual Storage Requirements
SMC	<ul style="list-style-type: none"> <li>■ In JES2, approximately 2.8 MB of ECSA above the 16M line for load modules and data structures.</li> <li>■ In JES3, an additional 800K of ECSA above the 16M line.</li> <li>■ There are no CSA requirements below the 16M line.</li> </ul>
HSC	<ul style="list-style-type: none"> <li>■ Approximately 215K of ECSA above the 16M line for load modules and data structures.</li> <li>■ Approximately 20K of CSA below the 16M line for some load modules and data structures.</li> <li>■ An additional amount of ECSA above the line is dynamically acquired and released during operation of the HSC. The actual amount varies with the activity and size of the library, but would rarely, if ever, exceed an additional 10K.</li> </ul> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>■ Approximately 400 bytes of the below-the-line CSA storage is located in subpool 228 (FIXED).</li> <li>■ To relieve the below-the-line CSA constraint and save approximately 16K of below-the-line CSA, place the following modules in an LPALIB:                             <ul style="list-style-type: none"> <li>■ SLSSPARS</li> <li>■ SLSWMRT</li> </ul> </li> </ul>
MVS/CSC	<ul style="list-style-type: none"> <li>■ Approximately 200K of ECSA above the 16M line for load modules and data structures.</li> <li>■ Approximately 34K of CSA below the 16M line for some load modules and data structures.</li> <li>■ An additional amount of ECSA above the line is dynamically acquired and released during operation of the MVS/CSC and HSC. The actual amount varies with the activity and size of the library, but would rarely, if ever, exceed an additional 10K.</li> </ul>

**Note –**

- Virtual storage requirements are **not** listed for LibraryStation, as the LibraryStation software executes in the HSC address space on MVS.
- The actual amount of ECSA varies slightly based on the size of the library and number of transports defined to MVS.
- Additional CSA may be required when installing corrective service tapes, software enhancements, or new releases of the HSC.

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# NCS Installation Materials

The Nearline Control Solution (NCS) package includes the following materials:

- NCS Base Media (tape or CD-ROM), containing product FMIDs for SMC, HSC, the StorageTek HTTP Server, MVS/CSC and LibraryStation
- NCS Corrective Service Media (tape or CD-ROM), containing NCS PTFs, HOLDDATA, cover letters, and summary information released since the base media was created

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**Note –**

- Oracle's StorageTek Virtual Tape Control System (VTCS) and Concurrent Disaster Recovery Test (CDRT) software is distributed on separate media. If you are using this software in your NCS environment, refer to the *Installing and Configuring VTCS* guide for installation and configuration considerations.
  - Contact StorageTek Support for information about additional PTFs that might be required before installing the NCS product components.
  - Use the MVS Program Binder when installing NCS software and service. Failure to do so may result in link-editing errors.
-

## NCS Base Media

NCS 6.2 (including SMC, HSC, the StorageTek HTTP Server, MVS/CSC, and LibraryStation) is distributed in the following formats:

- Standard label 4480, 9840, or 9940 tape with a volume serial number of OS6200
- CD-ROM

## NCS Base Tape Contents

The NCS base tape includes the following files:

**TABLE 1-2** NCS Release 6.2 Base Tape Contents

File	Data Set Name	Description
1	SMPMCS	SMP/E control statements
2	SOS6200.F1	HSC JCLIN
3	SOS6200.F2	HSC samples MAC
4	SOS6200.F3	HSC source modules
5	SOS6200.F4	HSC object modules
6	SCS6200.F1	MVS/CSC JCLIN
7	SCS6200.F2	MVS/CSC samples MAC
8	SCS6200.F3	MVS/CSC source modules
9	SCS6200.F4	MVS/CSC object modules
10	SMC6200.F1	SMC JCLIN
11	SMC6200.F2	SMC samples
12	SMC6200.F3	SMC macros
13	SMC6200.F4	SMC object modules
14	SMC6200.F5	SMC source modules
15	SMZ6200.F1	SMC JES3 JCLIN
16	SMZ6200.F2	SMC JES3 server samples
17	SMZ6200.F3	SMC JES3 server macros
18	SMZ6200.F4	SMC JES3 server source modules
19	SMZ6200.F5	SMC JES3 server object modules
20	SOC6200.F1	LibraryStation JCLIN
21	SOC6200.F2	LibraryStation macros, samples and source modules
22	SOC6200.F3	LibraryStation object modules
23	SSKY500.F1	HTTP server JCLIN
24	SSKY500.F2	HTTP samples
25	SSKY500.F3	HTTP load modules
26	SSKY500.F4	HTTP object modules
27	SSCR70C.F1	SAS/C 7.0 JCLIN

**TABLE 1-2** NCS Release 6.2 Base Tape Contents (Continued)

<b>File</b>	<b>Data Set Name</b>	<b>Description</b>
28	SSCR70C.F2	SAS/C 7.0 object modules
29	SSCR70D.F1	SAS/C 7.0 JCLIN
30	SSCR70D.F2	SAS/C 7.0 object modules
31	ASAR700.F1	HTTP Server SAS/C 7.0 JCLIN
32	ASAR700.F2	HTTP Server SAS/C 7.0 object modules

## NCS Base CD-ROM Contents

The base CD-ROM includes the following files:

**TABLE 1-3** NCS Release 6.2 Base CD-ROM Contents

<b>File</b>	<b>Data Set Name</b>	<b>Description</b>
1	Documents	NCS CD installation notes
2	NCS62.gimzip	Compressed file containing NCS products excluding VTCS, CDRT and JCL samples
3	NCS62.pax	Compressed file containing NCS products excluding VTCS and CDRT. JCL samples are included
4	Samples	Unix version of NCS samples
5	Samples.win	Windows version of NCS samples (with CR/LF)
6	Start Here.html	XML starting point to the documentation folder

## Unloading the SMP/E JCL Library

The SMP/E JCL library includes the sample members used to install the NCS functions.

### Unloading the SMP/E JCL Library from the NCS Base Tape

Use the JCL example below to unload the SMP/E JCL members from file 2 of the NCS installation base tape to your SMP/E JCL library. These sample JCL members contain installation and maintenance examples. See [“Sample Installation Members” on page 70](#) for a list of samples that are unloaded.

---

**Note** – In the JCL examples in this document and the sample JCL provided on the NCS base tape, some fields appear in lower case. These fields **must** be updated to match your installation requirements.

---

```
//jobname JOB your jobcard parameters
//UNLOAD EXEC PGM=IEBCOPY
//INDD DD DSN=SOS6200.F1,DISP=SHR,
// UNIT=tape-unit,VOL=SER=OS6200,LABEL=(2,SL)
//OUTDD DD DSN=your.smpe.jcllib,DISP=(NEW,CATLG),
// UNIT=SYSALLDA,
// SPACE=(TRK,(5,1,4)),
// DCB=(RECFM=FB,LRECL=80,BLKSIZE=3120)
//SYSPRINT DD SYSOUT=*
//SYSIN DD *
C I=INDD,O=OUTDD
E M=SOS6200
/*
```

**FIGURE 1-1** JCL to Unload the NCS SMP/E JCL Library from Tape

## Unloading the SMP/E JCL Library from the NCS Base CD-ROM

Perform the following tasks to unload the contents of the NCS base CD:

1. FTP NCS62.pax to Unix Systems Services (USS).
2. Unpack the NCS62.pax file.
3. TSO RECEIVE the LOADSAMP.xmit file.

These tasks are described in the following sections.

### Step 1: FTP NCS62.pax to Unix Systems Services (USS)

The NCS62.pax file contains the NCS base software and sample JCL.

To FTP NCS62.pax to USS:

1. Create a USS directory to receive the NCS62.pax file:
  - a. Establish network connectivity between your PC, MVS host and USS.
  - b. Log on to USS by entering **OMVS** from the TSO READY prompt or enter **TSO OMVS** from an ISPF command line.
  - c. Use the **mkdir** command to create a new directory. For example, the **mkdir SMPNTS** command creates a new directory named SMPNTS. Use the **pwd** command to display the complete USS path to SMPNTS. Note this path information, which you will need in the SMP/E RECEIVE batch job NTSNCS, executed later in the installation process.

2. Insert the NCS 6.2 base CD into your CD-ROM drive.

3. Open a DOS window and change directory (**cd**) to your CD-ROM drive.

4. Transfer the NCS62.pax file, in binary, from the CD to the USS directory using the following FTP commands:

```
ftp mvshost
user
password
cd /uss/userid/SMPNTS
binary
put NCS62.pax
quit
```

5. Watch for FTP messages to ensure the successful file transfer of NCS62.pax into the new SMPNTS directory.

You can also log on to Unix Systems Services (USS), change directory (**cd**) to the SMPNTS directory, and enter the **ls** command from within the SMPNTS directory. The NCS62.pax file should be listed.

## Step 2: Unpack the NCS62.pax file

To unpack the NCS62.pax file:

1. Log on to Unix Systems Services (USS) by entering **TSO OMVS** from an ISPF command line or **OMVS** from the TSO READY prompt.
2. If you are still logged on to USS and within the SMPNTS directory, go to step 4. Otherwise, continue with step 3.
3. Change directory (**cd**) to the SMPNTS directory.
4. To unpack the NCS62 file, enter the following command:

```
pax -rv <NCS62.pax
```

This file unpacks in place and the following files and directory are created:

**TABLE 1-4** Contents of SMPNTS after unpacking the NCS62.pax file

File	Data Set Name	Description
1	LOADSAMP.xmit	NCS samples formatted for input into the TSO Receive
2	NCS62.gimzip	Directory input to the SMP/E Receive process
3	NCS62.pax	Compressed file FTPed from the installation CD
4	Samples	CD installation JCL

**TABLE 1-5** Contents of the NCS62.gimzip directory

File	Data Set Name	Description
1	GIMPAF.xml	Product attribute file
2	GIMPAF.xsl	Style sheet
3	SMPHOLD	Directory containing SMP/E HOLDDATA
4	SMPPTFIN	Directory containing SMP/E PTFIN file for each product
5	SMPRELF	Directory containing SMP/E REL files for each product

### Step 3: TSO RECEIVE the LOADSAMP.xmit file

After you unpack the NCS62.pax file, copy the LOADSAMP.xmit file to an MVS PDS data set using the following JCL:

```
//Your jobcard
//*****
/* Turn caps off for this member. Enter CAPS OFF on the command line.      *
/*
/* Use this JCL member to unload NCS sample JCL members from USS.          *
/*
/*** You must first FTP the NCS62.pax file to USS and unpack the file      ****
/*
/******
//ALLOCJCL EXEC PGM=IEFBR14,REGION=4800K
//DD1 DD DSN=hlq.NCS62.JCLSAMP,
//      DISP=(NEW,CATLG),UNIT=XXXX,VOL=SER=XXXXXX,
//      DCB=(LRECL=80,BLKSIZE=27920,RECFM=FB),
//      SPACE=(TRK,(9,4,10))
/*
//UNLOAD EXEC PGM=IKJEFT01,COND=(0,NE)
//SYSPRINT DD SYSOUT=*
//SYSTSPRT DD SYSOUT=*
//SYSTSIN DD DATA
  ALLOCATE DD(LOADDD) PATHOPTS(ORDONLY) FILEDATA(BINARY) +
            PATH('/uss/userid/SMPNTS/LOADSAMP.xmit')

  RECEIVE INDD(LOADDD)
            DSNAME('hlq.NCS62.JCLSAMP') SHR
```

FIGURE 1-2 JCL to Copy LOADSAMP.xmit to a PDS

## Preparing the SMP/E Environment

This section describes how to prepare the SMP/E environment for installation of the NCS base functions and SMC JES3 support function. If you are installing service, see [Appendix B, “Installing NCS Maintenance”](#) for more information.

The NCS products are installed using SMP/E. The SMP/E installation process involves RECEIVING, APPLYING, and ACCEPTING NCS functions into the correct SMP/E target and distribution zones.

### SMP/E Considerations

SMP/E requirements for installing the NCS product components include the following:

- NCS **must** be installed with SMP/E. All installation instructions in this guide are based on SMP/E.
- If you are installing NCS from CD, SMP/E version 3 Release 1 or higher is required to install NCS from the Unix Systems Services (USS) platform. Additionally, you **must** have access to USS with read and write permissions.
- Install all NCS Release 6.2 product components (SMC 6.2, HSC 6.2, MVS/CSC 6.2, and LibraryStation 6.2) together in a new SMP/E CSI.
- Products from other vendors should **not** be installed in the same SMP/E CSI as NCS.
- It is recommended that you SMP/E ACCEPT all of your NCS base products.
- In this release of NCS, load modules for the tape management scratch interface routines (SLUDRCA1, SLUDRTL, SLUDRRMM, and SLUDRZAR) are delivered to allow installation to a separate set of target and distribution libraries, SMCLINK and ASMCLINK. In NCS 6.2, these modules are shared among HSC, MVS/CSC, and SMC.

---

#### Warning –

- If you install an NCS Release 6.2 product component in an SMP/E CSI containing a previous release of that product, the previous release is deleted from the target and distribution zones. In addition, all SYSMODS for the previous release are deleted from the SMP/E CSI.
  - Do **not** install LibraryStation Release 6.2 or MVS/CSC Release 6.2 and supportive SAS/C functions in an SMP/E CSI containing other StorageTek products with SAS/C functions you wish to preserve. Doing so may cause unpredictable results.
-

## Defining and Initializing the SMP/E Consolidated Software Inventory (CSI)

You **must** define and initialize the NCS 6.2 SMP/E Consolidated Software Inventory (CSI). To accomplish this task, you can use the sample batch job provided in member ALLOCCSI of your SMP/E JCL library. Follow the instructions in the prologue of the sample member and submit the job.

Defining and initializing the SMP/E CSI includes the following steps:

1. Define the required SMP/E data sets.
2. Define the Consolidated Software Inventory (CSI) data set that contains the SMP/E global, target, and distribution zones for this release.
3. Initialize the SMP/E CSI.
4. Add zones, options, utilities, and DDDEF entries to the SMP/E CSI.

---

## Allocating NCS Target and Distribution Library Data Sets and Required DDDEF Entries

For each NCS product being installed, you **must** allocate NCS target and distribution data sets and define the appropriate DDDEF entries in the SMP/E CSI.

[TABLE 1-6 on page 16](#) lists the NCS target and distribution library data sets.

Use the sample batch job provided in member NCSDDDEF of your SMP/E JCL library to accomplish this task for SMC, HSC, the StorageTek HTTP Server, MVS/CSC, and LibraryStation. Follow the instructions in the prologue of this sample member and submit the job.

If you are installing JES3, you **must** also allocate JES3 target and distribution library data sets and DDDEF entries. Use the sample batch job provided in member NCSJ3DEF of your SMP/E JCL library. Follow the instructions in the prologue of this sample member and submit the job.

---

**Note** – If installing the SMC JES3 support function as shown in the NCSJ3DEF sample member (with the ASSEM option), an assembly and link-edit of the SMCERSLV module is automatically performed. When SMP/E processing assembles SMCERSLV, the symbol table may run out of space. To avoid this problem, add the SIZE(MAX,ABOVE) option to the SMP/E global zone utility options for ASMA90. This allows SMP/E to utilize storage above the 16M line for the symbol table.

---

TABLE 1-6 and TABLE 1-7 list the NCS target and distribution library data sets.

**Note –**

- The tables include ncs\_620 as the high-level qualifier for data sets. You can change this high-level qualifier to conform to the naming conventions defined for your installation.
- The numbers listed for directory blocks and blocks are the minimum required for the product.
- The DDnames required for each DDDEF entry match the last qualifier of the data set name. For example, for data set ncs\_620.SMCLINK, the corresponding DDname is SMCLINK.
- The SMP/E DSSPACE parameter, which specifies the amount of space to be allocated to temporary RELFILE data sets, **must** be set to at least 150,100,150.

TABLE 1-6 NCS Target Library Data Sets

Data Set Name	Product(s)	DSORG	RECFM	LRECL	BLKSIZE	Blocks	Directory Blocks
ncs_620.CSLINK	MVS/CSC LibraryStation	PO	U	-	15476	50/10	20
ncs_620.SACLINK	MVS/CSC LibraryStation HTTP Server	PO	U	-	15476	200/10	100
ncs_620.SCSLINK	MVS/CSC	PO	U	-	32760	500/100	100
ncs_620.SCSMAC	MVS/CSC	PO	FB	80	23440	30/10	5
ncs_620.SCSSAMP	MVS/CSC	PO	FB	80	23440	30/10	5
ncs_620.SKYICNS	HTTP Server	PO	VB	32754	32760	1/1	10
ncs_620.SLCLINK	LibraryStation	PO	U	-	32760	500/100	50
ncs_620.SLCSAMP	LibraryStation	PO	FB	80	23440	30/10	5
ncs_620.SLSLINK	HSC	PO	U	-	32760	300/30	100
ncs_620.SLSMAC	HSC	PO	FB	80	23440	100/50	50
ncs_620.SLSSAMP	HSC	PO	FB	80	23440	100/50	20
ncs_620.SLULINK	HSC	PO	U	-	32760	2/1	10
ncs_620.SMCLINK	SMC	PO	U	-	32760	500/50	30
ncs_620.SMCMAC	SMC	PO	FB	80	23440	20/10	5
ncs_620.SMCSAMP	SMC	PO	FB	80	23440	20/10	5
ncs_620.SMZLINK	JES3	PO	U	-	32760	20/10	5
ncs_620.SSAROMOD	HTTP Server	PO	U	-	32760	200/20	300
ncs_620.SSKYRTNS	HTTP Server	PO	U	-	32760	200/100	50
ncs_620.STKLOAD	HTTP Server	PO	U	-	32760	200/20	20
ncs_620.STKSAMP	HTTP Server	PO	FB	80	23440	1/1	1

**TABLE 1-7** NCS Distribution Library Data Sets

<b>Data Set Name</b>	<b>Product</b>	<b>DSORG</b>	<b>RECFM</b>	<b>LRECL</b>	<b>BLKSIZE</b>	<b>Blocks</b>	<b>Directory Blocks</b>
ncs_620.ACSSLINK	MVS/CSC LibraryStation	PO	U	-	32760	50/10	20
ncs_620.ASACLINK	MVS/CSC LibraryStation HTTP Server	PO	U	-	32760	200/10	100
ncs_620.ASAROBM	HTTP Server	PO	U	-	32760	50/10	100
ncs_620.ASAROMM	HTTP Server	PO	U	-	32760	60/10	100
ncs_620.ASAROSM	HTTP Server	PO	U	-	32760	80/10	120
ncs_620.ASCSLINK	MVS/CSC	PO	U	-	32760	500/100	100
ncs_620.ASCSMAC	MVS/CSC	PO	FB	80	23440	30/10	5
ncs_620.ASCSSAMP	MVS/CSC	PO	FB	80	23440	30/10	5
ncs_620.ASKYICNS	HTTP Server	PO	VB	32754	32760	1/1	10
ncs_620.ASKYRTNS	HTTP Server	PO	U	-	32760	200/100	50
ncs_620.ASKYSAMP	HTTP Server	PO	FB	80	23440	1/1	1
ncs_620.ASLCLINK	LibraryStation	PO	U	-	32760	500/100	50
ncs_620.ASLCSAMP	LibraryStation	PO	FB	80	23440	30/10	5
ncs_620.ASLSLINK	HSC	PO	U	-	32760	300/30	200
ncs_620.ASLSMAC	HSC	PO	FB	80	23440	100/50	20
ncs_620.ASLSSAMP	HSC	PO	FB	80	23440	100/50	20
ncs_620.ASMCLINK	SMC	PO	U	-	32760	500/50	30
ncs_620.ASMCMAC	SMC	PO	FB	80	23440	20/10	5
ncs_620.ASMCSAMP	SMC	PO	FB	80	23440	20/10	5
ncs_620.ASMZLINK	JES3	PO	U	-	32760	20/10	5

## Updating the SYSLIB Concatenation

NCS supports different versions of MVS/ESA JES3 and multiple tape management systems (e.g. TLMS and CA-1). Therefore, you **must** add certain DDDEF entries to the SMP/E CSI, and modify the SYSLIB concatenation to include the appropriate macro libraries. To accomplish this task, use the sample batch job provided in member ALLSYSLB of your SMP/E JCL library. Follow the instructions in the prologue of the sample member and submit the job.

The return code **must** be four (4) or less for all steps executed in this job. If you receive a different return code, contact StorageTek Support.

# Installing the NCS Functions

---

---

## Overview

This chapter describes the tasks required to install the NCS functions, including the base functions, communication functions, and the SMC JES3 function.

The following topics are included:

- Reviewing the NCS FMIDs
- Receiving the NCS functions (SMP/E RECEIVE)
- Applying the NCS functions (SMP/E APPLY)
- Accepting the NCS functions (SMP/E ACCEPT)

Before installing the NCS functions, verify that you have completed the pre-installation tasks described in [Chapter 1, “Performing Pre-Installation Tasks”](#).

---

**Note** – If you are using the Virtual Storage Manager (VSM) system in your NCS environment, refer to the *Installing and Configuring VTCS* guide for installation and configuration considerations.

---

## Reviewing the NCS FMIDs

NCS 6.2 is packaged in standard SMP/E format, and is delivered as multiple function SYStem MODifications (SYSMODs) identified by following SMP/E FMIDs:

**TABLE 2-1** NCS 6.2 FMIDs

FMID	Description
SMC6200	SMC load modules and samples <b>Note:</b> This function includes the SMC-specific functions for the StorageTek HTTP server that were previously provided by the SMX FMID.
SOS6200	HSC load modules, distributed macros, and samples
SMZ6200	SMC JES3 support load modules, distributed macros, and samples for MVS systems running JES3 Release 5.2.1, JES3 OS/390 Release 1.1 and higher, or JES3 z/OS Release 1.0 and higher
SSKY500	HTTP server load modules, distributed macros, and samples
SOC6200	LibraryStation load modules and samples
SCS6200	MVS/CSC load modules, distributed macros, and samples
ASAR700	SAS/C 7.0 selected components required for the StorageTek HTTP server
SSCR70C	SAS/C 7.0 selected components required for LibraryStation and MVS/CSC
SSCR70D	SAS/C 7.0 selected components required for LibraryStation, MVS/CSC, and the StorageTek HTTP server

---

**Note –**

- The SMX FMID is no longer supported. SMC-specific functions for the StorageTek HTTP Server are now provided by the SMC6200 FMID.
  - If you are using the Virtual Storage Manager (VSM) system in your NCS environment, refer to the *Installing and Configuring VTCS* guide for installation and configuration considerations.
-

---

# Receiving the NCS Functions

You **must** issue the SMP/E RECEIVE command to receive the functions you want to install into the target and distribution zones. You can SMP/E receive the NCS functions from the NCS base tape or CD-ROM.

---

**Note** – If you install an NCS 6.2 product component in an SMP/E CSI containing a previous release of that product, the previous release is deleted from the target and distribution zones. In addition, all SYSMODS for the previous release are deleted from the SMP/E CSI. If you choose to do this, it is recommended that you back up the NCS SMP/E CSI prior to installing the NCS 6.2 product components.

---

## Receiving the NCS Functions from the NCS Installation Tape

Use the NCSRECV sample member provided in your SMP/E JCL library, or the SMP/E Sysmod Management panels to SMP/E RECEIVE the functions you wish to install. See [“Reviewing the NCS FMIDs” on page 20](#) for a list of NCS SMP/E FMIDs.

Follow the instructions in the prologue of the NCSRECV sample member and submit the batch job to receive the functions you wish to install.

The return code **must** be zero (0) for all steps executed in this job. If you receive a different return code, contact StorageTek Support.

## Receiving the NCS Functions from the NCS Installation CD

Use the NTSNCS sample member to SMP/E RECEIVE the NCS functions from Unix Systems Services (USS).

Follow the instructions in the prologue of the NTSNCS sample member and submit the batch job to receive the functions you wish to install. See [“Reviewing the NCS FMIDs” on page 20](#) for a list of NCS SMP/E FMIDs.

The return code **must** be zero (0) for all steps executed in this job. If you receive a different return code, contact StorageTek Support.

## Applying the NCS Functions

Use the NCSAPPLY sample member provided in your SMP/E JCL library, or the SMP/E Sysmod Management panels to install the NCS functions into the appropriate target zone.

The NCSAPPLY member allows you to SMP/E APPLY the desired base functions, communication functions, and optionally, the SMC JES3 function. Follow the instructions in the prologue of the NCSAPPLY sample member and run the job.

The return code **must** be zero (0) for all steps executed in this job. If you receive a different return code, contact StorageTek Support.

---

### Note –

- If you are installing HSC and VTCS, you **must** SMP/E receive **all** maintenance from the corrective service tape or CD, and all maintenance and HOLDDATA available on the Customer Resource Center **before** SMP/E APPLYing and ACCEPTing the base functions. This is due to co-requisites between HSC and VTCS modules.
  - The SMC6200 function includes the SMC-specific functions for the StorageTek HTTP server that were previously provided by the SMX FMID.
  - You can use the APPLY CHECK option as often as necessary to identify SMP/E processing problems before the actual APPLY process. All SMP/E detected problems **must** be resolved before the base functions can be successfully installed.
- 

---

## Accepting the NCS Functions

Use the NCSACCPT sample member provided in your SMP/E JCL library, or the SMP/E Sysmod Management panels to accept the NCS functions into the appropriate target zone.

The NCSACCPT member allows you to SMP/E ACCEPT the desired base functions, communication functions, and optionally, the SMC JES3 function. Follow the instructions in the prologue of the NCSACCPT sample member and run the job.

The return code **must** be four (4) or less for all steps executed in this job. If you receive a different return code, contact StorageTek Support.

---

**Note –** You can use the ACCEPT CHECK option as often as necessary to identify SMP/E processing problems before the actual ACCEPT process. All SMP/E detected problems **must** be resolved before the base functions can be successfully installed.

---

# Performing SMC Post-installation Tasks

---

---

## Overview

This chapter describes post-installation tasks for the SMC. The following topics are included:

- Adding the SMC load library to the authorized program list
- Optionally, defining the SMC as an MVS Subsystem
- Copying or Moving the SMCBPREI Module to an MVS LNKST Library
- Modifying the MVS Program Properties Table for SMC
- SMC data space considerations

---

### Note –

- Before proceeding, verify that you have completed the installation tasks described in Chapters 1 and 2.
  - If you are using JES3 with tape setup, you **must** perform the JES3 tasks described in [Chapter 5, “Performing JES3 Post-Installation Tasks”](#).
-

## Adding the SMC Load Library to the Authorized Program List

The SMC **must** run as an authorized program. You **must** add the SMC load library to the authorized program list on your system. You can authorize the SMC load library by adding the load library to the IEAAPFzz member of SYS1. PARMLIB, or by adding the load library to the PROGzz member of SYS1. PARMLIB. You can also authorize the SMC load library dynamically.

### Using IEAAPFzz to authorize the SMC Load Library

If you use the IEAAPFzz member of SYS1.PARMLIB to authorize the SMC load library, you **must** add the following entry to that list:

```
your.SMCLINK volser
```

This sample is contained in member IEAAPFZZ of the SMC sample library. Before adding this sample to your authorized program list, edit the high level qualifier and volser with appropriate values for your system.

---

**Note** – If the SMC load library resides on an SMS-managed volume, you do **not** need to specify a volume in the authorized library entry. In this case, specify nothing after the library name, to indicate that SMS is managing the library. If you specify the wrong volume, the library will **not** be authorized.

---

## Using PROGzz to authorize the SMC Load Library

If you use the PROGzz member of SYS1.PARMLIB to authorize the SMC load library, you **must** add the following entries to that list:

```
APF ADD
  DSNAME(your.SMCLINK)
  VOLUME(volser) | SMS
```

This sample is contained in member PROGZZ of the SMC sample library. Before adding this sample to your authorized program list, edit the high level qualifier and volser with appropriate values for your system.

---

**Note** – If the SMC load library resides on an SMS-managed volume, you do **not** need to specify a volume in the authorized library entry. In this case, specify the literal SMS after the library name, to indicate that SMS is managing the library. If you specify the wrong volume, the library will **not** be authorized.

---

## Defining the SMC as an MVS Subsystem

The SMC executes as an MVS dynamic subsystem. In many installations, the SMC does **not** need to be added to the MVS subsystem name table. However, if any of the following conditions are true, you **must** add the SMC to the MVS subsystem name table (SYS1.PARMLIB member IEFSSNzz) as required.

- If you are running SMC and a tape management system on the same host, and the tape management system is also executing as an MVS dynamic subsystem, add both the tape management system and the SMC to the subsystem name table to ensure the correct order of message processing. See [“Tape Management System Interaction and the Subsystem Name Table” on page 26](#).
- If you are running SMC and the Unicenter CA-MIA product on the same host, add both Unicenter CA-MIA and the SMC to the subsystem name table to ensure the correct order of EDL processing. See [“Unicenter CA-MIA Interaction and the Subsystem Name Table” on page 27](#).
- If you are running SMC, a tape management system, and the Unicenter CA-MIA product on the same host, add all three products to the subsystem name table. See [“SMC, TMS, and Unicenter CA-MIA Interaction and the Subsystem Name Table” on page 28](#).
- If you wish to run the SMC under the master MVS subsystem (rather than under the primary Job Entry Subsystem), add the SMC to the subsystem name table. See [“Running SMC under MSTR and the Subsystem Name Table” on page 28](#).

In addition, the PROCLIB containing the SMC START procedure **must** be present in the PROCLIB concatenation for the master address space. This concatenation is defined in SYS1.PARMLIB(MSTJCLzz), under DD IEFPSI.

---

## Copying or Moving the SMCBPREI Module to an MVS LNKLST Library

The SMC subsystem pre-initialization routine module (SMCBPREI), which resides in the SMCLINK library, **must** also reside in an MVS LNKLST library if you are running the SMC as a secondary MVS subsystem. You can copy or move the SMCBPREI module from SMCLINK to a LNKLST library.

The SMCBPREI pre-initialization routine module is functionally compatible between SMC releases. For future compatibility, however, use the most current release of the SMCBPREI pre-initialization module.

## Tape Management System Interaction and the Subsystem Name Table

If you are running a Tape Management System (TMS), you **must** ensure that it processes MVS mount messages **before** the SMC. To do this, add both the tape management system and the SMC to the subsystem name table with the (TMS) entry preceding the SMC entry. The following example shows entries for CA-1 Release 5.1 and above, and SMC.

```
SUBSYS SUBNAME (JES2) PRIMARY (YES) START (NO)
SUBSYS SUBNAME (TMS)
SUBSYS SUBNAME (SMC0) INITRTN (SMCBPREI)
```

In installations with tape management systems executing on the same host, it is recommended that you always add both the tape management system and the SMC to the subsystem name table.

The following table presents possible subsystem name definition scenarios for a tape management system and SMC when both are dynamic subsystems.

Is SMC defined in the subsystem name table?	Is TMS defined in the subsystem name table?	Possible Issues
YES	YES	Supported and recommended. The TMS <b>must</b> precede the SMC in the table.
YES	NO	<b>Not</b> supported. The TMS <b>cannot</b> process MVS mount messages before the SMC.
NO	YES	Supported but <b>not</b> recommended. You <b>must</b> ensure that the SMC is started after the TMS.

---

**Note** – See [“Notes on Subsystem Name Table Modifications for SMC”](#) on page 29.

---

## Unicenter CA-MIA Interaction and the Subsystem Name Table

If you are running the Unicenter CA-MIA product, Computer Associates recommends that you add both SMC and Unicenter CA-MIA to the subsystem name table with the SMC entry preceding the entry for Unicenter CA-MIA. The following example shows entries for SMC and Unicenter CA-MIA.

```
SUBSYS SUBNAME(JES2) PRIMARY(YES) START(NO)
SUBSYS SUBNAME(SMC0) INITRTN(SMCBPREI)
SUBSYS SUBNAME(MIA)
```

Unicenter CA-MIA compatibility also requires that the ALLOCDEF MIACOMPAT(ON) option be specified in SMC. Refer to the *SMC Configuration and Administration Guide* for information about the ALLOCDEF command.

---

**Note** – See [“Notes on Subsystem Name Table Modifications for SMC”](#) on page 29.

---

## SMC, TMS, and Unicenter CA-MIA Interaction and the Subsystem Name Table

If you are running SMC, a Tape Management System (TMS), and Unicenter CA-MIA all on the same host, add all three products to the subsystem name table in the order indicated in the following example:

```
SUBSYS SUBNAME (JES2) PRIMARY (YES) START (NO)
SUBSYS SUBNAME (TMS)
SUBSYS SUBNAME (SMC0) INITRTN (SMCBPREI)
SUBSYS SUBNAME (MIA)
```

Unicenter CA-MIA compatibility also requires that the ALLOCDEF MIACOMPAT(ON) option be specified in SMC. Refer to the *SMC Configuration and Administration Guide* for information about the ALLOCDEF command.

---

**Note** – See [“Notes on Subsystem Name Table Modifications for SMC”](#) on page 29.

---

## Running SMC under MSTR and the Subsystem Name Table

If you wish to run the SMC under the MSTR subsystem rather than under the primary job entry subsystem, you **must** add the SMC to the subsystem name table to identify the subsystem name, as in the following example:

```
SUBSYS SUBNAME (SMC0)
```

This sample is contained in member IEFSSNZZ of the SMC sample library.

If your primary Job Entry Subsystem is JES3, then the SMC **cannot** run under MSTR, but **must** be executed under JES3.

If the SMC subsystem is to execute under MSTR, you **must** also include the MSTR option on the PARM parameter in the SMC START procedure. Refer to the *SMC Configuration and Administration Guide* for information about creating the SMC START procedure.

An alternative to adding the SMC to the subsystem name table in order to execute under MSTR is to start the SMC subsystem with the SUB=MSTR parameter on the MVS start command. Refer to the *SMC Configuration and Administration Guide* for information about executing the SMC start procedure.

---

**Note** – See [“Notes on Subsystem Name Table Modifications for SMC”](#) on page 29.

---

## Notes on Subsystem Name Table Modifications for SMC

- The SUBNAME(name) parameter specifies a 1-4 character name that normally corresponds to the SMC START procedure name. If the SMC subsystem name you define via the SUBNAME(name) parameter does **not** match the SMC START procedure name, you **must** include the SYSS option on the PARM parameter in the START procedure. Refer to the *SMC Configuration and Administration Guide* for information about creating the SMC START procedure.
- You **must** use the keyword format of the SUBSYS command rather than the positional format. Refer to your IBM z/OS publications for more information about defining subsystem names.
- You **must** perform an IPL of the MVS host system before changes to the subsystem name table take effect.
- If you have added the Unicenter CA-MIA subsystem name to the subsystem name table, one of the following **must** be done:
  - The started task that uses this subsystem **must** be present in the PROCLIB concatenation for the master address space. This concatenation is defined in SYS1.PARMLIB(MSTJCLzz), under DD IEFPSI.
  - The Start command for Unicenter CA-MIA **must** specify the SUB=JES2 parameter. For example, S CAMIA,SUB=JES2.

## Modifying the MVS Program Properties Table for SMC

You **must** modify the MVS Program Properties Table (PPT) to include an entry for the SMC subsystem.

---

**Note** – The SMC **must** run in a low key (from 1-7). The examples in this section use key 3. Using keys 8-15 causes unpredictable results.

---

You **must** add the following entry to member SCHEDzz of SYS1.PARMLIB. This sample entry is in member SCHEDZZ of the SMC sample library included on the installation base tape. The PPT entry is defined as follows:

```
PPT PGMNAME(SMCBINT) , PRIV, SYST, KEY(3)
```

---

**Note** – After modifying the SCHEDzz member, you **must** perform an IPL or dynamic update.

---

---

## SMC Data Space Considerations

SMC uses a data space with SCOPE=COMMON to perform its inter-address space communications. Ensure that the IEASYSzz member MAXCAD parameter is set appropriately in MVS to account for the SMC. This parameter controls the number of common data spaces allowed on an MVS system.

For more information, refer to your IBM z/OS publications.

# Performing HSC Post-installation Tasks

---

---

## Overview

This chapter describes required post-installation tasks for the HSC. The following topics are included:

- Defining the HSC as an MVS subsystem
- Adding the HSC load library to the authorized program list
- Adding the HSC user exit library to the authorized program list
- Copying or moving the SLSBPREI module to an MVS LINKLIST library
- Modifying the MVS program properties table for HSC
- Adding SMF parameters for the HSC
- Re-assembling the SLUCONDB (Scratch Conversion) Modules

---

**Note** – Before proceeding, verify that you have completed the installation tasks described in Chapters 1 and 2.

---

## Defining the HSC as an MVS Subsystem

HSC can either run under the master MVS subsystem, or as a secondary MVS subsystem.

- If you run HSC under the master MVS subsystem, you **must** add a line to your subsystem name table (SYS1.PARMLIB member IEFSSNzz) to identify the subsystem name. This is a one- to four-character name that corresponds to the procedure name for the HSC started task procedure.
- If you run HSC as a secondary MVS subsystem, you **must** add a line to your subsystem name table (SYS1.PARMLIB member IEFSSNzz) to identify the following:
  - The subsystem name. This is a one- to four-character name that corresponds to the procedure name for the HSC started task procedure.
  - The HSC subsystem initialization routine name, which **must** be SLSBPREI.

Assuming your HSC subsystem name is SLS0, the following lines correctly add HSC to your subsystem name table when running HSC under the master MVS subsystem, or as a secondary MVS subsystem. This sample entry is contained in member IEFSSNXX of the HSC sample library on the installation base tape.

```
SUBSYS SUBNAME(SLS0) INITRTN(SLSBPREI) /* keyword format */
```

You can also define the HSC subsystem name dynamically using the MVS SETSSI command. For example:

```
SETSSI ADD,SUB=SLS0 /* If running under master subsystem */

or

SETSSI ADD,SUB=SLS0,INITRTN=SLSBPREI
/* If running as secondary subsystem */
```

where SLS0 is the HSC subsystem name, and SLSBPREI is the name of the HSC subsystem initialization routine.

---

### Note –

- If the HSC subsystem name you define in the subsystem name table does **not** match the HSC started task procedure name, you **must** include the SYSS option on the PARM parameter in the started task procedure. Refer to the *MVS/HSC Configuration Guide* for information about creating an HSC startup procedure.
  - If you are **not** defining the HSC subsystem name dynamically, you **must** perform an IPL of the MVS host system before the HSC subsystem name entry takes effect.
  - HSC no longer interacts with tape management systems in processing MVS messages. Therefore, the order of definition of the HSC subsystem and a tape management subsystem is irrelevant. However, the SMC subsystem definition, if specified, **must** follow the tape management system entry.
  - Refer to your IBM z/OS publications for more information about defining subsystem names.
-

---

# Adding the HSC Load Library to the Authorized Program List

The HSC **must** run as an authorized program. You **must** add the HSC load library to the authorized program list on your system. You can authorize the HSC load library by adding the load library to the IEAAPFzz member of SYS1.PARMLIB, or by adding the load library to the PROGzz member of SYS1.PARMLIB. You can also authorize the HSC load library dynamically.

The following sections describe each of these methods.

## Using IEAAPFzz to authorize the HSC Load Library

If you use the IEAAPFzz member of SYS1.PARMLIB to authorize the HSC load library, you **must** add the following entry to that list:

```
your.SLSLINK volser
```

This sample is contained in member IEAAPFXX of the HSC sample library. Before adding this sample to your authorized program list, edit the high level qualifier and volser with appropriate values for your system.

---

**Note** – If the HSC load library resides on an SMS-managed volume, you do **not** need to specify a volume in the authorized library entry. In this case, specify nothing after the library name, to indicate that SMS is managing the library. If you specify the wrong volume, the library will **not** be authorized.

---

## Using PROGzz to authorize the HSC Load Library

If you use the PROGzz member of SYS1.PARMLIB to authorize the HSC load library, you **must** add the following entries to that list:

```
APF ADD
  DSNAME(your.SLSLINK)
  VOLUME(volser) | SMS
```

This sample is contained in member PROGXX of the HSC sample library. Before adding this sample to your authorized program list, edit the high level qualifier and volser with appropriate values for your system.

---

**Note** – If the HSC load library resides on an SMS-managed volume, you do **not** need to specify a volume in the authorized library entry. In this case, specify the literal SMS after the library name to indicate that SMS is managing the library. If you specify the wrong volume, the library will **not** be authorized.

---

---

## Adding the HSC User Exit Library to the Authorized Program List

The HSC user exit library can either be the same as the HSC load library, or a separate library. If the HSC user exit library is a separate library, you **must** add the library to the authorized program list. For example:

```
SLS.SLSLINK      volser,
SLS.USEREXIT.LOAD  volser
```

Before adding the library to the authorized program list, edit the high level qualifier and volser with appropriate values for your system.

---

**Note** – If the HSC user exit library resides on an SMS-managed volume, you do **not** need to specify a volume in the authorized library entry. If you specify the wrong volume, the library will **not** be authorized.

---

---

## Copying or Moving the SLSBPRESI Module to an MVS LINKLIST Library

The HSC subsystem pre-initialization routine module (SLSBPRESI), which resides in the SLSLINK library, **must** also reside in an MVS LINKLIST library if you are running the HSC as a secondary MVS subsystem. You can copy or move the SLSBPRESI module from SLSLINK to a LINKLIST library.

The SLSBPRESI pre-initialization routine module is functionally compatible between HSC releases. For future compatibility, however, use the most current release of the SLSBPRESI pre-initialization module.

---

## Modifying the MVS Program Properties Table for HSC

You **must** modify the MVS Program Properties Table (PPT) to include an entry for the HSC subsystem.

---

**Note** – The HSC **must** run in a low key (from 1-7). The examples in this section use key 3. Using keys 8-15 causes unpredictable results including SOC1 and SOC4 abends.

---

You **must** add the following entry to member SCHEDzz of SYS1.PARMLIB. This sample entry is in member SCHEDXX of the HSC sample library on the installation base tape. The PPT entry is defined as follows:

```
PPT PGMNAME(SLSBINIT) , PRIV, SYST, KEY(3)
```

## Adding SMF Parameters for the HSC

You **must** add two lines to your System Management Facility (SMF) parameters in SYS1.PARMLIB member SMFPRMzz to identify the following:

- HSC subsystem name
- HSC recording interval (the smaller the number, the more often data is recorded)

Specified as INTERVAL(*hhmmss*)

A minimum of 15 minutes (001500) is strongly recommended to avoid impacts to library performance. For HSC systems that do **not** support VSM, an interval of one hour (010000) is recommended.

- HSC SMF record type
- HSC SMF record subtypes to be recorded (See [“HSC SMF Record Subtypes”](#) below for a list of record subtypes that HSC can generate.)

Assuming your HSC subsystem name is SLS0, the following example shows the lines that add HSC to your SMF parameters.

```
SUBSYS (SLS0, INTERVAL(001500), TYPE(255))
SUBPARM (SLS0 (SUBTYPE(1,2,3,4,5,6,7,8)))
```

This sample is contained in member SMFPRMXX of the HSC sample library on the installation base tape.

## HSC SMF Record Subtypes

The following table lists the SMF record subtypes that HSC can generate.

Subtype	Description
1	LSM operations statistics
2	Vary Station command
3	MODify LSM command
4	LMU read statistics
5	Cartridge eject
6	Cartridge enter
7	Cartridge move
8	View command

If you do **not** specify the SUBTYPE parameter in your SMF options, HSC generates subtypes 1 through 6. You **must** code a SUBPARM parameter and include subtypes 7 and 8 to generate cartridge move and view records.

Refer to the *MVS/HSC System Programmer's Guide* for more information about the SMF records.

---

## Re-assembling the SLUCONDB (Scratch Conversion) Modules

Depending on your tape management system and associated release level, you may need to re-assemble the SLUCONDB (Scratch Conversion) modules. This is also necessary if local modifications are made to certain modules.

Refer to the *MVS/HSC System Programmer's Guide* for more information about the Scratch Conversion (SLUCONDB) Utility and re-assembly requirements.



# Performing JES3 Post-Installation Tasks

---

---

## Overview

This chapter describes required post-installation tasks for JES3 environments **with TAPE SETUP processing**. The following topics are included:

- Assembling and Link-editing the SMCERSLV module for SMC
- Authorizing the SMZ load library
- Creating and installing SMC Type 1 modifications
- Creating and installing the JES3 IATUX09 user modification for the SMC
- Creating and installing the JES3 IATUX71 user modification for the SMC

## Assembling and Link-editing the SMCERSLV module for SMC

If you installed the SMC JES3 support function with the ASSEM option, a link-edit and assembly of the SMCERSLV module was automatically performed. The SMCERSLV module obtains the correct offsets and lengths of the JES3 macro fields required by the SMC.

After the initial assembly and link-edit of the SMCERSLV module, you **must** manually reassemble this module each time IBM maintenance is applied to the JES3 macros. You can run member SMCJRSLV of the SMC SAMPLIB, causing a reassembly of SMCERSLV when certain JES3 macros are updated.

The SMCJRSLV library member is run against the MVS/JES3 target and distribution zones. Follow the instructions contained in the prologue of the SMCJRSLV job, make any necessary changes and run the job.

---

**Note** – It is strongly recommended that you use the SMCJRSLV library member to reassemble the SMCERSLV module. Failure to reassemble the SMCERSLV module after applying maintenance to JES3 macros can result in unpredictable SMC operations.

---

---

## Authorizing the SMZ Load Library

### Load Module Access for SMC and JES3

All load modules in the SMZ load library **must** be accessible to the JES3 address space. This is accomplished using either of the following methods:

- Add the SMZLINK load library to the JES3 STEPLIB concatenation.
- Add the SMZLINK load library to the MVS LINKLIST library.

---

**Note** – A JES3 “hot start” is required to activate the modules listed above.

---

Module SMCERSLV **must** be accessible to the JES3 address space if the NOSMC parameter of the IATIIP1 Type 1 modification has been set to PROMPT. See [“Creating and Installing SMC Type 1 Modifications” on page 42](#) for more information about this modification.

Module SMCERSLV **must** be accessible to the SMC address space. This module is automatically assembled into the SMCLINK library where the SMZ6200 FMID is installed.

## Using IEAAPFzz to Authorize the SMZ Load Library

If you use the IEAAPFzz member of SYS1.PARMLIB to authorize the SMZ load library, you **must** add the following entry to that list:

```
your.SMZLINK volser
```

This sample is contained in member IEAAPFZZ of the SMC sample library. Before adding this sample to your authorized program list, edit the high level qualifier and volser with the appropriate values for your system.

---

**Note** – If the SMZ load library resides on an SMS-managed volume, you do **not** need to specify a volume in the authorized library entry. If you specify the wrong volume, the library will **not** be authorized.

---

## Using PROGzz to Authorize the SMZ Load Library

If you use PROGzz member of SYS1.PARMLIB to authorize the SMZ load library, you **must** add the following entries to that list:

```
APF ADD  
  DSNAME(your.SMZLINK)  
  VOLUME(volser)
```

---

**Note** – If the SMC load library resides on an SMS-managed volume, you do **not** need to specify a volume in the authorized library entry. If you specify the wrong volume, the library will **not** be authorized.

---

---

# Creating and Installing SMC Type 1 Modifications

You **must** create and SMP/E install Type 1 modifications to certain JES3 modules for JES3 environments **with** TAPE SETUP processing.

---

**Note** – If you plan to run the SMC on an MVS/JES3 system where HSC, MVS/CSC, or a prior release of SMC is currently running, you **must** remove the existing Type 1 modifications and create and install the SMC Release 6.2 Type 1 modifications.

---

## Creating SMC Type 1 Modifications

Use the SMCEHOOK macro to create an SMC Type 1 modification for **each** of the following JES3 modules:

### IATIICM (optional)

The type 1 modification to JES3 module IATIICM allows the SMC to retrieve DFSMS DATACLAS recording technique and media values when specified on the JCL DD statement. Install this modification **only** if your installation allows DATACLAS to be specified on JCL DD statements.

### IATIIP1 (required)

The type 1 modification to JES3 module IATIIP1 allows the SMC to perform device exclusion. The SMCEHOOK macro provides an ACALL in the IATIIP1 module that allows the SMC to determine where a data set's volume resides, and substitutes an esoteric name based on the volume's location in the job's intermediate job summary table (IJS). JES3 then creates a job summary table (JST) for the job that is used during device preferencing and volume fetch processing. This Type 1 modification is required.

Code the NOSMC parameter of the SMCEHOOK macro to indicate the action you want JES3 C/I to take if SMC is **not** active when C/I processing occurs. Choose the parameter value based on whether or **not** you want JES3 allocation to proceed if the SMC has **not** initialized. Valid values and actions are listed in the following table.

NOSMC Value	Action
NOSMC=PROMPT	One C/I process prompts the operator to start SMC and waits for SMC initialization.
NOSMC=NONE	The C/I process continues with no StorageTek tape subsystem.

## IATMDAL (required)

The type 1 modification to JES3 module IATMDAL allows the SMC to perform device preferencing. The SMCEHOOK macro provides an ACALL in the IATMDAL module that allows the SMC to direct the allocation of transports to the closest LSM containing the volume (specific requests), or to the LSM containing the largest number of scratch volumes (nonspecific requests). The JST created for the job is used during device preferencing and fetch processing. This Type 1 modification is required.

Code the TASKID parameter of the SMCEHOOK macro to indicate the task id for device preferencing. The value **must** be between 151 and 255 inclusive. The default is 203.

## IATMDFE (optional)

The Type 1 modification to JES3 module IATMDFE allows the SMC to suppress operator fetch messages for library cartridge transports during dynamic allocation. Install this modification if you wish to suppress these fetch messages. This user modification is optional.

## Installing SMC Type 1 Modifications

The prologue for the SMCEHOOK macro provides detailed instructions regarding its use. The SMCEHOOK macro resides in the SMCMAC library.

SMC sample members SMCUIICM, SMCUIIP1, SMCUMDAL, and SMCUMDFE contain examples of the SMC JES3 Type 1 modifications.

After creating the SMC Type 1 modifications to the JES3 modules, you **must** SMP/E install the Type 1 modifications. Use the SMC SAMPLIB member SMCJTYP1 to SMP/E install the SMC Type 1 modifications for IATIICM, IATIIP1, IATMDAL, and IATMDFE. The following figure shows the JCL included in the member SMCJTYP1.

```
//jobname JOB .....
//INSTTYP1 EXEC PGM=GIMSMP,REGION=4096K
//SMPCSI DD DSN=your.jes3.global.csi,DISP=SHR
//SMPPTFIN DD DSN=your.usermods,DISP=SHR
//SMPHOLD DD DUMMY
//SMPCTL DD *
  SET BDY(GLOBAL) .
  RECEIVE S(
    LUSIICM
    LUSIIP1
    LUSMDAL
    LUSMDFE
  ) .
  SET BDY(jes3-target-zone) .
  APPLY S(
    LUSIICM
    LUSIIP1
    LUSMDAL
    LUSMDFE
  ) .
/*
```

Perform the following steps:

1. Allocate the data set 'system.usermods' on DASD as RECFM=FB, DSORG=PS, LRECL=80, using your own data set naming conventions.

---

**Note** – Line numbering **must** be OFF when editing this data set as described in steps 2-4.

---

2. Copy SMC SAMPLIB members SMCUIIP1 and SMCUMDAL into 'system.usermods'. Perform the modifications documented at the top of both members.
3. Determine if the modification to IATIICM is appropriate for your system. If it is, copy the SMC SAMPLIB member SMCUIICM into 'system.usermods'. Perform the modification documented at the top of the member.
4. Determine if the modification to IATMDFE is appropriate for your system. If it is, copy the SMC SAMPLIB member SMCUMDFE into 'system.usermods'. Perform the modification documented at the top of the member.
5. Edit the SMC SAMPLIB member SMCJTYP1:
  - Change the JOB card to meet your local standards.
  - Change *your.jes3.global.csi* to the name of your JES3 global CSI.
  - Change *your.usermods* to the name you used for 'system.usermods', above.
  - Change *jes3-target-zone* to the JES3 SMP/E target zone name.
  - If you have decided **not** to install the modification to IATIICM, remove LUSIICM from the RECEIVE and APPLY statements.
  - If you have decided **not** to install the modification to IATMDFE, remove LUSMDFE from the RECEIVE and APPLY statements.
6. Submit the job.

## Creating and Installing the JES3 IATUX09 User Exit Modification for SMC

You **must** create and SMP/E install the JES3 IATUX09 user exit modification if you want to enable deferred mounting and suppression of operator fetch messages for library volumes.

### Creating the JES3 IATUX09 User Exit Modification for SMC

If you want to defer mounts and suppress fetch messages for library volumes during common allocation, you **must** create the JES3 IATUX09 user exit source and user modification.

The JES3 IATUX09 user exit modification allows the suppression of operator fetch messages for library cartridge transports, and enables the deferred mount processing function. The use of this user exit is optional. However, it **must** be installed in order to defer mounts and suppress fetch messages for library volumes during common allocation.

If your installation already utilizes JES3 user exit IATUX09, rename the existing user exit and place your new load module name in the SETC's operand field at label "&OLDUX09." See the SETC at label "&OLDUX09" in the sample user exit, SMC3UX09.

An example of the source is contained in SMC sample member SMC3UX09, and an example of the user modification is contained in SMC SAMPLIB member SMCUUX09.

## Installing the JES3 IATUX09 User Exit Modification for SMC

After you create the JES3 IATUX09 user exit modification, you **must** SMP/E install the user exit modification. Use sample library member SMCJUX09 to SMP/E install the JES3 user exit modification.

The following figure shows the JCL included in SMCJUX09.

```
//jobname JOB .....
//INSTUX09 EXEC PGM=GIMSMP,REGION=4096K
//SMPCSI DD DSN=your.jes3.global.csi,DISP=SHR
//SMPPTFIN DD DSN=your.usermods,DISP=SHR
//SMPHOLD DD DUMMY
//SMPCNTL DD *
    SET BDY(GLOBAL) .
    RECEIVE S(
        LUSUX09
    ) .
    SET BDY(jes3-target-zone) .
    APPLY S(
        LUSUX09
    ) .
/*
```

Perform the following steps:

1. Allocate the data set 'system.usermods' on DASD as RECFM=FB, DSORG=PS, LRECL=80, using your own data set naming conventions.
2. Copy SMC SAMPLIB members SMCUUX09 and SMC3UX09 into 'system.usermods'. Examine the instructions documented at the top of SMCUUX09, and perform any necessary modifications

---

**Note** – If you are already using IATUX09, you **must** rename the existing user exit modification.

---

3. Edit the SMC SAMPLIB member SMCJUX09:
  - Change the JOB card to meet your local standards.
  - Change *your.jes3.global.csi* to the name of your JES3 global CSI.
  - Change *your.usermods* to the name you used for 'system.usermods', above.
  - Change *jes3-target-zone* to the JES3 SMP/E target zone name.
4. Submit the job.

## Creating and Installing the JES3 IATUX71 User Exit Modification for SMC

You **must** create and SMP/E install the JES3 IATUX71 user exit modification if you want to enable JES3 mount message (IAT5210) processing for library volumes.

### Creating the JES3 IATUX71 User Exit Modification for SMC

If you want to enable JES3 mount messaging processing for library volumes, you **must** create the JES3 IATUX71 user exit source and user modification.

The JES3 IATUX71 user exit modification enables the mounting of the required volume in response to JES3 mount message IAT5210. This user exit is optional. However, it **must** be installed in order to enable JES3 mount message processing for library volumes if the library subsystem policy requests no mount deferral. For HSC, no mount deferral is requested by setting the ALLOC command parameter DEFER to OFF. For MVS/CSC, no mount deferral is requested by setting the DEFER startup parameter to NO or by resetting its value to NO with an ALTER command.

An example of the user exit modification is contained in SMC sample member SMCUUX71.

## Installing the JES3 IATUX71 User Modification for SMC

After creating the JES3 IATUX71 user exit modification, you **must** SMP/E install the user exit modification. Use sample library member SMCJUX71 to SMP/E install the JES3 user exit modification.

The following figure shows the JCL included in SMCJUX71.

```
//jobname JOB .....
//INSTUX71 EXEC PGM=GIMSMP,REGION=4096K
//SMPCSI DD DSN=your.jes3.global.csi,DISP=SHR
//SMPPTFIN DD DSN=your.usermods,DISP=SHR
//SMPHOLD DD DUMMY
//SMPCNTL DD *
  SET BDY(GLOBAL) .
  RECEIVE S(
    LUSUX71
  ) .
  SET BDY(jes3-target-zone) .
  APPLY S(
    LUSUX71
  ) .
/*
```

Perform the following steps:

1. Allocate the data set 'system.usermods' on DASD as RECFM=FB, DSORG=PS, LRECL=80, using your own data set naming conventions.
2. Copy SMC SAMPLIB members SMCUUX71 and SMC3UX71 into 'system.usermods'. Follow the directions in ["Creating and Installing the JES3 IATUX71 User Exit Modification for SMC" on page 48](#), examine the instructions at the beginning of SMC3UX71, and perform any necessary modifications

---

**Note** – If you are already using IATUX71, you **must** rename the existing user exit modification.

---

3. Edit the SMC SAMPLIB member SMCJUX71:
  - Change the JOB card to meet your local standards.
  - Change *your.jes3.global.csi* to the name of your JES3 global CSI.
  - Change *your.usermods* to the name you used for 'system.usermods', above.
  - Change *jes3-target-zone* to the JES3 SMP/E target zone name.
4. Submit the job.



# Performing Post-installation Tasks for the StorageTek HTTP Server

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---

## Overview

The StorageTek HTTP Server for OS/390 and z/OS optionally provides the middleware to allow communication between the SMC (client) and a remote HSC subsystem (server). The HTTP server executes as a separate subsystem on the MVS host where the remote HSC subsystem resides.

This chapter describes post-installation tasks for the HTTP Server. The following topics are included:

- Adding the HTTP Server Libraries to the Authorized Program List
- Modifying the MVS Program Properties Table for the HTTP Server

---

### Note –

- Before proceeding, verify that you have completed the installation tasks described in Chapters 1 and 2.
  - The StorageTek HTTP server is also packaged with the VTCS GUI product. However, for performance and security reasons, do **not** use the same HTTP server for both SMC server programs and VTCS GUI programs. Instead, execute one HTTP server for the SMC server, and a separate HTTP server for the VTCS GUI. To execute multiple HTTP server subsystems on a single host, they **must** connect to different PORT numbers.
-

## Adding the HTTP Server Libraries to the Authorized Program List

The HTTP server, and supporting programs, **must** run as an authorized program. You **must** add the STK HTTP load library and the SAS/C support load library to the authorized program list on your system. You can authorize these libraries by adding them to the IEAAPFzz member of SYS1.PARMLIB, or by adding them to the PROGzz member of SYS1.PARMLIB. You can also authorize these libraries dynamically.

### Using IEAAPFzz to Authorize the HTTP Load Libraries

If you use the IEAAPFzz member of SYS1.PARMLIB to authorize the STK HTTP load library and the SAS/C support load library, you **must** add the following entries to that list:

```
your.STKLOAD volser  
your.SACLINK volser
```

This sample is included in member IEAAPFZZ of the SMC sample library. Before adding this sample to your authorized program list, edit the high level qualifier and volser with appropriate values for your system.

---

**Note** – If any of these libraries reside on an SMS-managed volume then you can omit the volser specification for that library. In such cases, specify nothing after the library name, to indicate that SMS is managing the library. If you specify the wrong volume, the library will **not** be authorized.

---

## Using PROGzz to Authorize the HTTP Load Libraries

If you use the PROGzz member of SYS1.PARMLIB to authorize the STK HTTP load library and the SAS/C support load library, you **must** add the following entries to that list:

```
APF ADD
  DSNAME(your.STKLOAD)
  VOLUME(volser) | SMS
APF ADD
  DSNAME(your.SACLINK)
  VOLUME(volser) | SMS
```

This sample is included in member PROGZZ of the SMC sample library. Before adding this sample to your authorized program list, edit the high level qualifier and volser with appropriate values for your system.

---

**Note** – If any of these libraries reside on an SMS-managed volume then you can omit the volser specification for that library. In such cases, specify the literal SMS after the library name to indicate that SMS is managing the library. If you specify the wrong volume, the library will **not** be authorized.

---

## Modifying the MVS Program Properties Table for the HTTP Server

When using IBM DIAGxx member parameter ALLOWCSAUSERKEY(NO), you **must** modify the MVS Program Properties Table (PPT) to include an entry for the HTTP server.

You **must** add the following entry to member SCHEDxx of SYS1.PARMLIB. The PPT entry is defined as follows:

```
PPT PGMNAME (SKYMAN) , PRIV , SYST , KEY ( 3 )
```

---

**Note** – After modifying the SCHEDxx member, you **must** perform an IPL or dynamic update.

---

# Performing LibraryStation Post-Installation Tasks

---

---

## Overview

This chapter describes post-installation tasks for LibraryStation. The following topics are included:

- Adding LibraryStation libraries to the authorized program list
- Optionally defining the Persistent Data File (PDF)

---

**Note** – Before proceeding, verify that you have completed the installation tasks described in Chapters 1 and 2.

---

---

# Adding LibraryStation Libraries to the Authorized Program List

The LibraryStation **must** run as an authorized program. You **must** add the LibraryStation load libraries to the authorized program list on your system. The LibraryStation load libraries **must** exist in authorized program list (APF) authorized libraries SLCLINK and SACLINK.

You can authorize the LibraryStation load libraries by adding the load libraries to the IEAAPFzz member of SYS1. PARMLIB, or by adding the load libraries to the PROGzz member of SYS1. PARMLIB. You can also authorize the LibraryStation load libraries dynamically.

The following sections describe each of these methods.

## Using IEAAPFzz to authorize the LibraryStation Load Libraries

If you use the IEAAPFzz member of SYS1.PARMLIB to authorize the LibraryStation load libraries, you **must** add the following entries to that list:

```
your.SLCLINK volser,  
your.TCPLINK volser,  
your.SACLINK volser,  
your.CSSLINK volser
```

This sample is contained in member SLGAPFXX of the LibraryStation sample library. Before adding this sample to your authorized program list, edit the high level qualifier and volser with appropriate values for your system.

---

### Note –

- If the LibraryStation load library resides on an SMS-managed volume, you do **not** need to specify a volume in the authorized library entry. In this case, specify nothing after the library name, to indicate that SMS is managing the library. If you specify the wrong volume, the library will **not** be authorized.
  - The TCPLINK load library is required if you are using CA Unicenter TCPaccess Communications Server for TCP/IP communications. Refer to your CA publications for more information. If you are using IBM TCP/IP, this load library is **not** needed.
-

## Using PROGzz to authorize the LibraryStation Load Libraries

If you use the PROGzz member of SYS1.PARMLIB to authorize the LibraryStation load libraries, you **must** add the following entries to that list.

```
APF ADD
  DSNAME(your.SLCLINK)
  VOLUME(volser) | SMS
APF ADD
  DSNAME(your.TCPLINK)
  VOLUME(volser) | SMS
APF ADD
  DSNAME(your.SACLINK)
  VOLUME(volser) | SMS
APF ADD
  DSNAME(your.CSLLINK)
  VOLUME(volser) | SMS
```

This sample is contained in member SLGPRGXX of the LibraryStation sample library. Before adding this sample to your authorized program list, edit the high level qualifier and volser with appropriate values for your system.

---

### Note –

- If the LibraryStation load libraries resides on an SMS-managed volume, you do **not** need to specify a volume in the authorized library entry. In this case, specify the literal SMS after the library name to indicate that SMS is managing the library. If you specify the wrong volume, the library will **not** be authorized.
  - The TCPLINK load library is required if you are using CA Unicenter TCPaccess Communications Server. Refer to your CA publications for more information. If you are using IBM TCP/IP, this load library is **not** needed.
-

---

## Defining the Persistent Data File (Optional)

---

### Note –

- If you are migrating from a previous release of LibraryStation, you **must** delete the existing PDF and define a new PDF for the new release.
  - You **must** define a Persistent Data File (PDF) if LibraryStation is servicing heterogeneous clients (i.e., non-MVS clients). If LibraryStation is servicing MVS clients in a sysplex environment, do **not** define the PDF. The PDF is **not** supported for sysplex environments. Refer to the *LibraryStation Configuration and Administration Guide* for more information about the PDF.
  - If you are running multiple LibraryStations, Refer to the *LibraryStation Configuration and Administration Guide* for special information regarding the PDF.
- 

LibraryStation software includes a Database Manager (DBM) that is initialized during LibraryStation initialization. The DBM manages several persistent data objects that are **not** maintained by the HSC, including resource locks and drive status. Data objects managed by the DBM are stored in one or more VSAM files. These files are collectively referred to as the PDF. The PDF contains volume records, drive records, and lockid records. You **must** define the PDF when LibraryStation is servicing heterogeneous clients. Use IDCAMS to define data sets for the PDF. The following figure shows the IDCAMS statements used to define the PDF. The JCL to define data sets for the PDF is contained in member SLGDBCR of the LibraryStation sample library.

```

//SLGDBCR JOB job card info
//*
/* NOTE: A minimum of 1 Meg of virtual storage is needed
/*   for this job (i.e., use REGION=1M on the job card)
/*
//CREATEDB EXEC PGM=IDCAMS
//SYSPRINT DD SYSOUT=*
//INPUT DD *
000000000000 DB INITIALIZATION RECORD
//SYSIN DD *
DELETE (cluster_name) CLUSTER
DEFINE CLUSTER (
    NAME(cluster_name)
    VOLUMES(volser)
    RECORDS(nr,2*nr)
    RECORDSIZE(30 100)
    KEYS(12 0)
    UNIQUE )
REPRO INFILE(INPUT)
    OUTDATASET(cluster_name)
DEFINE ALTERNATEINDEX (
    NAME(alternate_index_name)
    RELATE(cluster_name)
    KEYS(10 2)
    RECORDS(nr,2*nr)
    RECORDSIZE(27 27)
    VOLUMES(volser)
    UNIQUEKEY
    UNIQUE
    UPGRADE )
DEFINE PATH (
    NAME(path_name)
    PATHENTRY(alternate_index_name))
BLDINDEX
    INDATASET (cluster_name)
    OUTDATASET (alternate_index_name)
LISTCAT ENTRIES (
    cluster_name
    alternate_index_name
    path_name) ALL
/*

```

You **must** supply or modify the following information:

- PDF Data set names
- Volume location of the PDF
- Record keyword values

## PDF Data Set Names

You **must** supply names for the data sets listed in the following table:

**TABLE 7-1** PDF Data Set Names

NAME Keyword	Description
CLUSTER	The name for the SLSPDF base cluster ( <i>cluster_name</i> ), such as LSTAT.PDF.
ALTERNATEINDEX	The name for the SLSPDFX alternate index ( <i>alternate_index_name</i> ), such as LSTAT.PDFAIX.
PATH	The name for the path to SLSPDFX ( <i>path_name</i> ), such as LSTAT.PDFPATH.

---

**Note** – There is no predefined naming convention for data set names. You can use the same prefix for all three data sets and provide a unique file type for each name.

---

## Volume Location

A single PDF is defined for LibraryStation, and the host system where LibraryStation is initialized **must** have access to the DASD volume where the PDF is located. Therefore, in a multiple host environment where more than one host is capable of initializing LibraryStation, the PDF **must** be located on shared DASD that is accessible to each initializing host.

The volume where the PDF is to be allocated can be any available DASD. You identify the DASD by its volser (*volser*).

## Values for Record Keywords

The PDF record space calculation (*nr*) (shown below) is based on the maximum number of volumes (*nv*) that all client systems can have locked at one time, and the total number of tape cartridge drives that will be used by the network clients (*nd*).

$$\text{number of records } (nr) = (nv + nd) * 1.1$$

The secondary PDF space allocation is calculated as twice the number of records (**2\*nr**).

Setting primary records to 2000 and secondary records to 4000 should be adequate for most LibraryStation installations. However, if you want to verify the records for your specific installation, use the allocation formula with your site's number of volumes and network client data.

# Performing MVS/CSC Post-Installation Tasks

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---

## Overview

This chapter describes required post-installation tasks for the MVS/CSC. The following topics are included:

- Defining the MVS/CSC as an MVS subsystem
- Adding MVS/CSC libraries to the authorized program list
- Adding the MVS/CSC user exit library to the authorized program list
- Copying or moving the SCSBPRES module to an MVS LINKLIST library
- Modifying the MVS program properties table for MVS/CSC
- Allocating MVS/CSC event-log and trace data sets

---

**Note** – Before proceeding, verify that you have completed the installation tasks described in Chapters 1 and 2.

---

---

## Defining the MVS/CSC as an MVS Subsystem

MVS/CSC runs as a secondary MVS subsystem. You **must** add a line to your subsystem name table (SYS1.PARMLIB member IEFSSNzz) to identify the following:

- The MVS/CSC subsystem name. This is a one- to four-character name that corresponds to the procedure name for the MVS/CSC started task procedure.
- The MVS/CSC subsystem initialization routine name, which **must** be SCSBPRES.

Assuming your MVS/CSC subsystem name is CSC0, the following line correctly adds MVS/CSC to your subsystem name table. This sample entry is contained in member IEFSSNYY of the MVS/CSC sample library on the installation base tape.

```
SUBSYS SUBNAME(CSC0) INITRTN(SCSBPREI) /* keyword
```

You can also define the MVS/CSC subsystem name dynamically using the MVS SETSSI command. For example:

```
SETSSI ADD, SUB=CSC0, INITRTN=SCSBPREI
```

where CSC0 is the MVS/CSC subsystem name, and SCSBPRES is the name of the MVS/CSC subsystem initialization routine.

---

### Note –

- If you are **not** defining the MVS/CSC subsystem name dynamically, you **must** perform an IPL of the MVS host system before the MVS/CSC subsystem name entry takes effect.
  - MVS/CSC no longer interacts with tape management systems in processing MVS messages. Therefore, the order of definition of the HSC subsystem and a tape management subsystem is irrelevant. However, the SMC subsystem definition, if specified, **must** follow the tape management system entry.
  - Refer to your IBM z/OS publications for more information about defining subsystem names.
-

---

# Defining Multiple MVS/CSC Subsystems Running on the Same MVS Host System

Multiple MVS/CSC subsystems can run on the same MVS host system. Each MVS/CSC **must** be defined as a separate MVS subsystem. Multiple MVS/CSC subsystems only require additional disk space for the multiple JCL startup procedures, additional startup parameter files, and optional event-log, trace, and TAPEREQ definition data sets.

If you intend to run multiple MVS/CSCs, each connected to a separate server, the following operating requirements and restrictions **must** be considered:

- All MVS/CSC subsystems may run from a single copy of executable modules.
- Each MVS/CSC requires its own MVS subsystem definition, cataloged procedure, startup parameters, virtual storage, and optional event-log, trace, and TAPEREQ definition data sets.
- MVS/CSC user exits should be the same version running for each MVS/CSC subsystem.
- Operator command prefix characters can be the same or different depending on local operating preferences.

---

**Note** – The SMC interrogates MVS/CSC subsystems using volume and policy information to determine which subsystem owns the allocation request. The order of interrogation is determined by the order of the SMC LIBRARY commands (if specified). If LIBRARY commands are **not** specified, the order of the MVS/CSCs in the SSCVT table is used.

---

The following **must** be defined for each subsystem:

- Server attachment
- Startup parameter file
- Communications links
- MVS/CSC startup procedure

In addition, you can optionally define event-log and trace data sets for each subsystem.

The text from the USERDATA parameter specified in the startup parameter file is passed to these user exits. This text and the parameter list (containing job name, data set name, and other information) can be used to specify to the SMC which active MVS/CSC subsystem is considered the owner of the allocation request.

---

**Note** –

- Refer to the *NCS User Exit Guide* for more information about MVS/CSC user exits.
  - Refer to the *MVS/CSC Configuration Guide* for information about MVS/CSC configuration tasks.
  - Refer to the *MVS/CSC Operator's Guide* for information about MVS/CSC operating procedures.
-

## Adding MVS/CSC Libraries to the Authorized Program List

The MVS/CSC **must** run as an authorized program. You **must** add the MVS/CSC load libraries to the authorized program list on your system. The MVS/CSC load libraries **must** exist in authorized program list (APF) authorized libraries SCSLINK and SACLINK.

You can authorize the MVS/CSC load libraries by adding the load libraries to the IEAAPFzz member of SYS1. PARMLIB, or by adding the load libraries to the PROGzz member of SYS1. PARMLIB. You can also authorize the MVS/CSC load libraries dynamically.

The following sections describe each of these methods.

### Using IEAAPFyy to authorize the MVS/CSC Load Libraries

If you use the IEAAPFzz member of SYS1.PARMLIB to authorize the MVS/CSC load libraries, you **must** add the following entries to that list.

```
your.SCSLINK volser,  
your.TCPLINK volser,  
your.SACLINK volser,  
your.CSLLINK volser
```

This sample is contained in member IEAAPFY of the MVS/CSC sample library. Before adding this sample to your authorized program list, edit the high level qualifier and volser with appropriate values for your system.

---

#### Note –

- If the MVS/CSC load libraries resides on an SMS-managed volume, you do **not** need to specify a volume in the authorized library entry. In this case, specify nothing after the library name, to indicate that SMS is managing the library. If you specify the wrong volume, the library will **not** be authorized.
  - The TCPLINK load library is required if you are using CA Unicenter TCPaccess Communications Server. Refer to your CA publications for more information. If you are using IBM TCP/IP, this load library is **not** needed.
-

## Using PROGyy to authorize the MVS/CSC Load Libraries

If you use the PROGzz member of SYS1.PARMLIB to authorize the MVS/CSC load libraries, you **must** add the following entries to that list.

```
APF ADD
  DSNAME(your.SCSLINK)
  VOLUME(volser) | SMS
APF ADD
  DSNAME(your.TCPLINK)
  VOLUME(volser) | SMS
APF ADD
  DSNAME(your.SACLINK)
  VOLUME(volser) | SMS
APF ADD
  DSNAME(your.CSLLINK)
  VOLUME(volser) | SMS
```

This sample is contained in member PROGY of the MVS/CSC sample library. Before adding this sample to your authorized program list, edit the high level qualifier and volser with appropriate values for your system.

---

### Note –

- If the MVS/CSC load libraries resides on an SMS-managed volume, you do **not** need to specify a volume in the authorized library entry. In this case, specify the literal SMS after the library name to indicate that SMS is managing the library. If you specify the wrong volume, the library will **not** be authorized.
  - The TCPLINK load library is required if you are using CA Unicenter TCPaccess Communications Server. Refer to your CA publications for more information. If you are using IBM TCP/IP, this load library is **not** needed.
-

## Adding the MVS/CSC User Exit Library to the Authorized Program List

The MVS/CSC user exit library can either be the same as the MVS/CSC load library, or a separate library. If the MVS/CSC user exit library is a separate library, you **must** add the library to the authorized program list. For example:

```
your.SCSLINK volser,  
your.USEREXIT.LOAD volser
```

Before adding the library to the authorized program list, edit the high level qualifier and volser with appropriate values for your system.

---

**Note** – If the MVS/CSC user exit library resides on an SMS-managed volume, you do **not** need to specify a volume in the authorized library entry. If you specify the wrong volume, the library will **not** be authorized.

---

---

## Copying or Moving the SCSBPRESI Module to an MVS LINKLIST Library

The MVS/CSC subsystem pre-initialization routine module (SCSBPREI), which resides in the SCSLINK library, **must** also reside in an MVS LINKLIST library. You can copy or move the SCSBPRESI module from SCSLINK to a LINKLIST library.

The SCSBPRESI pre-initialization routine module is functionally compatible between MVS/CSC releases. For future compatibility, however, use the most current release of the SCSBPRESI pre-initialization module.

## Modifying the MVS Program Properties Table for MVS/CSC

You **must** modify the MVS Program Properties Table (PPT) to include an entry for the MVS/CSC subsystem.

**Note** – The MVS/CSC **must** run in a low key (from 1-7). The examples in this section use key 3. Using keys 8-15 causes unpredictable results.

You **must** add the following entry to member Schedule of SYS1.PARMLIB. This sample entry is in member SCHEDYY of the MVS/CSC sample library on the installation base tape. The PPT entry is defined as follows:

```
PPT PGMNAME(SCSBINIT) , PRIV, SYST, KEY(3)
```

## Allocating MVS/CSC Event-Log and Trace Data Sets

The event-log data set is used to record events logged by MVS/CSC's Event Log facility. The trace data set is used to record trace output produced by MVS/CSC's Trace facility. If you plan to use MVS/CSC's Event Log and Trace facilities, you **must** allocate event-log and trace data sets to record the output that is produced by these facilities. The following table provides recommendations for size definitions. The numbers provided for blocks are the minimum required for the data sets.

Refer to the *MVS/CSC Configuration Guide* and *MVS/CSC System Programmer's Guide* for more information about MVS/CSC's Event Log and Trace facilities.

**TABLE 8-1** Trace and Event-Log Data Sets

Data Set	DSORG	RECFM	LRECL	BLKSIZE	Tracks	Directory Blocks
TRACE	PS	VB	3076	10000	2000	-
EVENT LOG	PS	VB	3076	10000	2000	-



# NCS Samples, Source Code Modules, and Macros

---

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## Overview

This appendix lists the sample installation members used to install the NCS product components. It also lists the samples, load modules, and macros included with SMC, HSC, MVS/CSC, and LibraryStation.

---

**Note** – If you are using the Virtual Storage Manager (VSM) system in your NCS environment, refer to the *Installing and Configuring VTCS* guide for information about VTCS samples.

---

# Sample Installation Members

The following table lists the sample installation JCL members included on the NCS installation base tape/CD-ROM:

**TABLE A-1** Sample Installation JCL Members

Member Name	Description
ALLOCCSI	Sample JCL for defining and initializing the SMP/E CSI
ALLSYSLB	Sample JCL for adding required DDDEF entries and modifying the SYSLIB concatenation
MAINTACF	Sample JCL for SMP/E ACCEPT of maintenance in a mass mode for specific NCS FMIDs
MAINTACS	Sample JCL for SMP/E ACCEPT of maintenance for specific SYSMODs
MAINTAPF	Sample JCL for SMP/E APPLY of maintenance in mass mode for specific NCS FMIDs
MAINTAPS	Sample JCL for SMP/E APPLY of maintenance for specific SYSMODs
MAINTRCF	Sample JCL for SMP/E RECEIVE of maintenance for a specific NCS FMID
MAINTRCP	Sample JCL for SMP/E RECEIVE of maintenance for an NCS Product Update Tape (PUT)
MAINTRCS	Sample JCL for SMP/E RECEIVE of maintenance for specific SYSMODs
NCSACCPT	Sample JCL for SMP/E ACCEPT of the NCS functions (including the JES3 support function)
NCSAPPLY	Sample JCL for SMP/E APPLY of the NCS functions (including the JES3 support function)
NCSDDDEF	Sample JCL for adding required DDDEF entries for all base NCS product components (excluding the SMC JES3 support function)
NCSJ3DEF	Sample JCL for adding required DDDEF entries for the SMC JES3 function
NCSRECV	Sample JCL for SMP/E RECEIVE of the NCS functions (including the JES3 support function) from the NCS base tape
NETNCS	Network version of NTSNCS (below)
NTSNCS	Sample JCL for SMP/E RECEIVE of the NCS functions (including the JES3 support function) from the NCS base CD-ROM

# SMC Base and JES3 Samples, Source Code Modules, and Macros

The following tables list the SMC samples, source code modules and macros contained on the NCS installation tape/CD-ROM:

**TABLE A-2** SMC Samples

Member Name	Description
GTFEXTR	Sample extract for SMC trace of a single job
GTFPARMS	Sample GTF parameters for SMC trace
GTFPROC	Sample GTF startup JCL
IEAAPFZZ	Sample SMC APF list entries
IEFSSNZZ	Sample SMC subsystem name table entry
INSTUXIT	Sample SMP/E for installing SMP/E managed user exits
MSGMPFUX	Sample MPF user exit
POLCVT01	Sample POLCVT member
POLCVT02	Sample POLCVT REXX data set program
PROGZZ	Sample SMC APF list entries
SCHEDZZ	Sample MVS Program Properties Table (PPT) entry for SMC
SMC3UX09	Sample SMC JES3 IATUX09 user exit source
SMC3UX71	Sample SMC JES3 IATUX71 user exit source
SMCCMDS	Sample command file for the SMCCMDS DD statement
SMCJRSLA	Sample JCL to assemble and link module SMCERSLV (JES3 only)
SMCJRSLV	Sample JCL for running UCLIN for SMCERSLV (JES3 only)
SMCJTYP1	Sample JCL to SMP/E install the SMC Type 1 modifications (JES3 only)
SMCJUX09	Sample JCL to SMP/E install the SMC IATUX09 user modification (JES3 only)
SMCJUX71	Sample JCL to SMP/E install the SMC IATUX71 user modification (JES3 only)
SMCPARMS	Sample parameter file for SMCPARMS DD statement
SMCPROC	Sample startup JCL
SMCUIICM	Sample IATIICM Type 1 modification (JES3 only)
SMCUIIP1	Sample IATIIP1 Type 1 modification (JES3 only)
SMCUMDAL	Sample IATMDAL Type 1 modification (JES3 only)
SMCUMDFE	Sample IATMDFE Type 1 modification (JES3 only)
SMCUUX09	Sample SMC JES3 IATUX09 user modification (JES3 only)
SMCUUX71	Sample SMC JES3 IATUX71 user modification (JES3 only)
SRVPARMS	Sample StorageTek HTTP server parms
SRVPROC	Sample StorageTek HTTP server PROC

**TABLE A-2** SMC Samples (Continued)

<b>Member Name</b>	<b>Description</b>
UX01CSC1	Sample MVS/CSC format message intercept user exit
UX01HSC1	Sample HSC format message intercept user exit
UX02CSC1	Sample MVS/CSC format JES2 scratch allocation user exit
UX02HSC1	Sample HSC format JES2 scratch allocation user exit
UX04CSC1	Sample MVS/CSC format JES3 scratch allocation user exit
UX04HSC1	Sample HSC format JES3 scratch allocation user exit
UX08CSC1	Sample MVS/CSC format JES2 specific allocation esoteric subs user exit
UX08HSC1	Sample HSC format JES2 specific allocation esoteric subs user exit
UX09CSC1	Sample MVS/CSC format JES2 defer allocation user exit
UX09HSC1	Sample HSC format JES2 defer allocation user exit
UX11CSC1	Sample MVS/CSC format JES3 defer allocation user exit
UX11HSC1	Sample HSC format JES3 defer allocation user exit
UX12CSC1	Sample MVS/CSC format JES3 GDG/UNITAFF separation user exit
UX12HSC1	Sample HSC format JES3 GDG/UNITAFF separation user exit
UX13CSC1	Sample MVS/CSC format JES3 specific allocation user exit
UX13HSC1	Sample HSC format JES3 specific allocation user exit

**TABLE A-3** SMC Source Code Modules

<b>Member Name</b>	<b>Description</b>
SMCERSLV	Source code for JES3 macro field resolution routine
SLUDRCA1	Source code for Scratch Conversion Utility CA-1 (TMS) database READ routine
SLUDRRMM	Source code for Scratch Conversion Utility DFSMSrmm database READ routine
SLUDRSMC	Source code for TMS database extract READ routine
SLUDRTLMS	Source code for Scratch Conversion Utility CA-TLMS (TLMS) database READ routine
SLUDRZAR	Source code for Zara database extract READ routine

TABLE A-4 SMC Macros

Member Name	Description
SMCEHOOK	SMC Type 1 modification macro (JES3 only)
SMCEMFLD	JES3 macro field resolution block (used by SMCERSLV) (JES3 only)
SLSUX01P	HSC format User Exit 01 parameter list
SLSUX02P	HSC format User Exit 02 parameter list
SLSUX04P	HSC format User Exit 04 parameter list (JES3 only)
SLSUX08P	HSC format User Exit 08 parameter list
SLSUX09P	HSC format User Exit 09 parameter list
SLSUX10P	HSC format User Exit 10 parameter list
SLSUX11P	HSC format User Exit 11 parameter list (JES3 only)
SLSUX12P	HSC format User Exit 12 parameter list (JES3 only)
SLSUX13P	HSC format User Exit 13 parameter list (JES3 only)
SCSUX01P	MVS/CSC format User Exit 01 parameter list
SCSUX02P	MVS/CSC format User Exit 02 parameter list
SCSUX04P	MVS/CSC format User Exit 04 parameter list (JES3 only)
SCSUX08P	MVS/CSC format User Exit 08 parameter list
SCSUX09P	MVS/CSC format User Exit 09 parameter list
SCSUX10P	MVS/CSC format User Exit 10 parameter list
SCSUX11P	MVS/CSC format User Exit 11 parameter list (JES3 only)
SCSUX12P	MVS/CSC format User Exit 12 parameter list (JES3 only)
SCSUX13P	MVS/CSC format User Exit 13 parameter list (JES3 only)

# HSC Samples and Macros

The following tables list the HSC samples and macros contained on the NCS installation tape/CD-ROM:

**TABLE A-5** HSC Samples

Member Name	Description
CVRLTR	Sample JCL to print the PUT cover letter from a PUT tape
GTFLMU	Sample MVS 2.X PARMLIB member to trace LMU requests
HSCAPPL	Sample APPL statement for HSC VTAM communications (LU 6.2)
IEAAPFXX	Sample HSC APF list entries
IEFSSNXX	Sample HSC subsystem name table entry
JCLACTV	Sample JCL to report on library performance
JCLAUDT	Sample JCL to audit library hardware
JCLBKUP	Sample JCL to backup the control data set
JCLCRT	Sample JCL to create the control data set
JCLEJCT	Sample JCL to eject cartridges from an ACS
JCLEXRS	Sample JCL to exercise an installation
JCLINIT	Sample JCL to initialize cartridges via the ACS
JCLOFLD	Sample JCL to offload control data set journals
JCLPROC	Sample HSC startup JCL
JCLRSTR	Sample to restore the control data set
JCLSCRD	Sample JCL for Scratch Redistribution Utility
JCLSCUP	Sample JCL for Scratch Update Utility
JCLTINIT	Sample JCL to initialize ACS cartridges using TMSTPNIT
JCLVOLR	Sample JCL to report on the volumes in the library
JCLVRFY	Sample JCL to verify an installation's LIBGEN
LIBGENnn	Sample LIBGEN source for installation examples (1-8)
LIBGNJCL	Sample JCL to assemble and link a LIBGEN source file
MPFUSERX	Sample MPF user exit to retain TMS007 messages on MVS console
PROGXX	Sample PROGxx statement
SASTYPEx	Sample SAS source for SMF subtypes 1, 4, and 7
SCHEDXX	Sample MVS Program Properties Table (PPT) entry for HSC
SENDEL	Sample SEN macro interface program
SENDISA	Sample SEN macro interface program
SENENA	Sample SEN macro interface program
SENEXIT	Sample SEN user exit

TABLE A-5 HSC Samples (Continued)

Member Name	Description
SENQRST	Sample SEN macro interface program
SLSSYS00	Sample HSC startup parameter file
SLSSYS12	Sample HSC PARMLIB member (release 1.2)
SLSSYS20	Sample HSC PARMLIB member (release 2.0)
SLSUX03	Default scratch subpool user exit
SLSUX05	Default programmatic interface (PGMI) user exit
SLSUX06	Default database insert/delete user exit
SLSUX14	Default volume access user exit
SLSUX15	Default command authority user exit
SLS0	Sample HSC startup procedure
SLUCONDB	Source code for Scratch Conversion Utility
SMFPRMxx	Sample PARMLIB definitions for HSC SMF record subtypes
SPGxxxxx	Sample HSC JCL
STKINDEX	Index of HSC samples
STKTSTxx	Sample IVP programs
SWSJCRDB	Sample to configure VTCS information in a CDS (VTCS only)
SWSJMVCr	Sample to generate an MVC report (VTCS only)
SWSJVTVR	Sample to generate a VTV report (VTCS only)
UX03SAM2	Sample HSC User Exit 03 to define scratch subpools with names
UX06SAM1	Sample HSC User Exit 06 interface to a tape management system
UX15SAM1	Sample HSC User Exit 15 to ensure command security

TABLE A-6 HSC Macros

Member Name	Description
ACSRQ	format a parameter list for an ACS request
SLIACS	LIBGEN SLIACS macro
SLIALIST	LIBGEN SLIALIST macro
SLICOV	Global configuration constants & variables
SLIDLIST	LIBGEN SLIDLIST macro
SLIDRIVS	LIBGEN SLIDRIVS macro
SLIENDGN	LIBGEN SLIENDGN macro
SLIERMSG	LIBGEN error message macro
SLILBACS	LIBGEN ACS area
SLILBALS	LIBGEN ACLIST area
SLILBDLS	LIBGEN DRIVELST area
SLILBDRV	LIBGEN DRIVES area
SLILBEND	LIBGEN ENDGEN area
SLILBLIB	LIBGEN LIBRARY area
SLILBLSM	LIBGEN LSM area
SLILBREC	LIBGEN RECOVERY area
SLILBSTA	LIBGEN STATION area
SLILCV	Installation LCT constants - variables
SLILIBRY	LIBGEN LIBRARY macro
SLILSM	LIBGEN LSM macro
SLIPTPCK	LIBGEN SLIPTPCK macro
SLIRCVRY	LIBGEN RECOVERY macro
SLISTATN	LIBGEN STATION macro
SLSDILLT	LIBGEN LOCATION type
SLSDVAR	Distributed volume attribute record length
SLSSBLOG	INIT/TERM LOGREC record
SLSSBLOS	LSM operations statistics data area
SLSSCAPJ	CAP SMF EJECT record
SLSSCAPN	CAP SMF ENTER record
SLSSDJLR	Database journalling LOGREC map
SLSSFHDR	SMF record header
SLSSHG1	Host communications LOGREC format 1
SLSSLHDR	LOGREC record header map
SLSSLG1	LMU driver LOGREC format ONE

TABLE A-6 HSC Macros (Continued)

Member Name	Description
SLSSLLG2	LMU driver LOGREC format two
SLSSLLG3	LMU driver LOGREC format three
SLSSLLG4	LMU driver LOGREC format four
SLSSLLG5	LMU driver LOGREC format five
SLSSLLG6	LMU driver LOGREC format six
SLSSLSB	LMU ATHS statistics buffer
SLSSMF07	HSC format 7 SMF record
SLSSMF08	HSC format 8 SMF record
SLSSMF09	HSC format 9 SMF record
SLSSMF10	HSC format 10 SMF record
SLSSMF11	HSC format 11 SMF record
SLSSMF12	HSC format 12 SMF record
SLSSMF13	HSC format 13 SMF record
SLSSMF14	HSC format 14 SMF record
SLSSMF15	HSC format 15 SMF record
SLSSMF16	HSC format 16 SMF record
SLSSMF17	HSC format 17 SMF record
SLSSMF18	HSC format 18 SMF record
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SLSSMF21	HSC format 21 SMF record
SLSSMF22	HSC format 22 SMF record
SLSSMF23	HSC format 23 SMF record
SLSSMF24	HSC format 24 SMF record
SLSSMF25	HSC format 25 SMF record
SLSSMF26	HSC format 26 SMF record
SLSSMF27	HSC format 27 SMF record
SLSSMF28	HSC format 28 SMF record
SLSSMF29	HSC format 29 SMF record
SLSSMF30	HSC FORMAT 30 SMF record
SLSSMLSM	Modify LSM SMF record subtype map
SLSSPSWI	Primary/shadow switch LOGREC record
SLSSRL00	Recovery ERDS record 0
SLSSRL01	Recovery ERDS record 1
SLSSVLG1	VOL/CELL force unselect record
SLSSVSTA	VARY station SMF record subtype map

**TABLE A-6** HSC Macros (Continued)

<b>Member Name</b>	<b>Description</b>
SLSUREQ	Batch API request processor
SLSSUREQM	Batch API interface mapping macro
SLSUX03P	HSC User Exit 03 parameter list
SLSUX05P	HSC User Exit 05 parameter list
SLSUX06P	HSC User Exit 06 parameter list
SLSUX14P	HSC User Exit 14 parameter list
SLSUX15P	HSC User Exit 15 parameter list
SLSXB2X	Translate 8 bits to a hex byte
SLSWMSG	Map logrec records written for WTO-type messages issued by HSC
SLSXREQ	Issue an ACS request
SLSXREQM	ACS user interface mapping macro
SLSXSEN	HSC Significant Event Notification (SEN) request
SLSXSENM	Significant Event Notification (SEN) request parm list map
SLUDRINF	TMS DB Read parameter list
SLUVADAT	Flat file ACS/LSM information DSECT
SLUVCDAT	Flat file static configuration data DSECT
SLUVDDAT	QCDS drive information DSECT
SLUVHDAT	Flat file host information DSECT
SLUVIDAT	Flat file CDS information DSECT
SLUVM DAT	Flat file MVC data DSECT
SLUVPDAT	QCDS CAP information DSECT
SLUVSDAT	Flat file ACS station address DSECT
SLUVTDAT	Flat file VTV data DSECT
SLUVVDAT	Flat file volume data DSECT
SLX	HSC external interface reply
SWSPGMIA	VTCS PGMI interface area (VTCS only)
SWSUIO	VTCS UIO I/O request (VTCS only)

# MVS/CSC Samples and Macros

The following tables list the MVS/CSC samples and macros contained on the NCS installation tape:

**TABLE A-7** MVS/CSC Samples

Member Name	Description
APPCPMYY	Sample definition of a system base LU for APPC/MVS
CSCPARM0	Sample MVS/CSC startup parameter file that is an example of an attachment to a VM-based (CLS) server using VTAM communications
CSCPARM1	Sample MVS/CSC startup parameter file that is an example of an attachment to VM-based (CLS) dual servers using TCP/IP communications
CSCPARM2	Sample MVS/CSC startup parameter file that is an example of an attachment to a UNIX-based (ACSL) server using TCP/IP communications
CSCPARM3	Sample MVS/CSC startup parameter file that is an example of an attachment to an MVS-based (LibraryStation) server using TCP/IP communications
CSCPARM4	Sample MVS/CSC startup parameter file that is an example of an attachment to an MVS-based (LibraryStation) server using LU 6.2 communications
CSCPARM5	Sample MVS/CSC startup parameter file that is an example of an attachment to a UNIX-based (ACSL) server using LU 6.2 communications
CSCPARM6	Sample MVS/CSC startup parameter file that is an example of an attachment to an MVS-based (LibraryStation) server using XCF communications
CSCPROC	Sample startup JCL
DEFAPPC	Sample JCL to create APPC Side Information File
IEAAPFYY	Sample MVS/CSC APF list entries
IEFSSNYY	Sample MVS/CSC subsystem name table entry
JCLCFGV1	Sample JCL for Configuration Verification Utility to verify startup parameters and MVS system definitions only
JCLCFGV2	Sample JCL for Configuration Verification Utility to verify startup parameters, MVS system definitions, and the server configuration for compatibility
JCLCONDB	Sample JCL for Scratch Conversion Utility
JCLLOGR	Sample JCL for Event Log Report Utility
JCLSCRUP	Sample JCL for Scratch Update Utility
LU6APPL	Sample definition of a local LU for VTAM
PGMISAM1	Sample QVOLUME request issued within a single MVS/CSC subsystem environment
PGMISAM2	Sample QCSC and QVOLUME request issued within a multiple MVS/CSC subsystem environment
PROGYY	Sample MVS/CSC APF list entries
SCHEDYY	Sample MVS Program Properties Table (PPT) entry for MVS/CSC
SCUCONDB	Source code for Scratch Conversion Utility

**TABLE A-7** MVS/CSC Samples (Continued)

Member Name	Description
TREQSAM1	Sample TAPEREQ control statements
TREQSAM2	Sample TAPEREQ control statements
UX05CSC1	Sample MVS/CSC User Exit 05 which returns a nonoperational return code

**TABLE A-8** MVS/CSC Macros

Member Name	Description
SCSUX05P	MVS/CSC User Exit 05 parameter list
SCSXREQ	Programmatic Interface request
SCSXREQM	Programmatic Interface mapping macro
SCUDRINF	TMS DB Read parameter list

---

## LibraryStation Samples and Source Code Modules

The following tables list the LibraryStation samples, source code modules, and macros contained on the NCS installation tape:

**TABLE A-9** LibraryStation Samples

Member Name	Description
SLGPROC	Sample LibraryStation startup JCL
SLGAPFXX	Sample LibraryStation APF list entries
SLGDBCR	Sample JCL for defining the LibraryStation PDF
SLGPRGXX	Sample LibraryStation APF list entries

**TABLE A-10** LibraryStation Source Code Modules

Member Name	Description
SLGDJCL	Sample JCL for running the SLGDIAG Installation Verification Program (IVP)
SLGDEXEC	Sample REXX exec for running the SLGDIAG IVP

# Installing NCS Maintenance

---

---

## Overview

This appendix contains instructions for installing NCS maintenance.

Before attempting to install maintenance, contact StorageTek Support for information about the latest corrective service available for your NCS products.

---

**Note** – Use the MVS Program Binder when installing NCS products and maintenance. Failure to do so may result in link-editing errors.

---

---

## Maintenance Installation Data Sets

NCS maintenance is installed with SMP/E. Thus, the SMP/E target and distribution libraries used for installation of the NCS base products are required. See [“Allocating NCS Target and Distribution Library Data Sets and Required DDDEF Entries”](#) on [page 15](#) for more information about these libraries.

---

## NCS Corrective Service Media

NCS maintenance (including SMC, HSC, the StorageTek HTTP Server, MVS/CSC, and LibraryStation) is distributed on tape or CD-ROM.

The corrective service tape or CD-ROM includes the following files:

**TABLE B-1** NCS Release 6.2 Corrective Service Tape Contents (Non Labeled Tape)

File	Data Set Name	Description
1	PTFS	Service PTFs
2	CVR	PTF cover letters and JCL samples
3	SMM	Summary data
4	HOLDDATA	SMP/E HOLDDATA

**TABLE B-2** NCS Release 6.2 Corrective Service CD Contents (Code Directory)

File	Data Set Name	Description
1	ncs62.cvr	PTF cover letters and JCL samples
2	ncs62.hdd	SMP/E HOLDDATA
3	ncs62.ptf	Service PTFs
4	ncs62.smm	Summary data

---

## Unloading the NCS Maintenance SMP/E JCL Samples

Sample JCL members for installing NCS maintenance were unloaded from the NCS base tape or CD-ROM during the NCS installation process. See [“Unloading the SMP/E JCL Library” on page 10](#) for more information.

These JCL samples can be used to process maintenance in mass mode, or by individual SYSMOD.

# Unloading the NCS Corrective Service CD-ROM

To unload COVER letters, HOLDDATA, PTFs, and SUMMARY data from your CD-ROM drive to your MVS host:

1. Pre-allocate the following FTP receiving data sets. Change "hlq" to your high-level-qualifier; change "v.r" to 6.2.

```
Data Set Name . . . :hlq.NCSvr.HDD - HOLDDATA
// RECFM=FB,LRECL=80,SPACE=(27920,(30,30))
```

```
Data Set Name . . . :hlq.NCSvr.PTF - PTFs
// RECFM=FB,LRECL=80,SPACE=(27920,(13000,300))
```

```
Data Set Name . . . :hlq.NCSvr.CVR - Cover Letters
// RECFM=FB,LRECL=80,SPACE=(27920,(30,30))
```

```
Data Set Name . . . :hlq.NCSvr.SMM - Summary
// RECFM=FB,LRECL=80,SPACE=(27920,(30,30))
```

2. Insert the Service CD into your CD-ROM drive.
3. Open a DOS window and cd to your CD-ROM drive.
4. Enter the following commands:

```
FTP mvshost
User
Password
binary
mput ncs62.cvr
mput ncs62.hdd
mput ncs62.ptf
mput ncs62.smm
quit
```

Running this sequence of mput commands copies the following CD files:

- ncs62.cvr
- ncs62.hdd
- ncs62.ptf
- ncs62.smm

...to the following data sets on your MVS system:

- *hlq*.NCS62.CVR
- *hlq*.NCS62.HDD
- *hlq*.NCS62.PTF
- *hlq*.NCS62.SMM

---

## SMP/E RECEIVE Maintenance

Sample members MAINTRCF and MAINTRCS provide sample JCL to perform an SMP/E RECEIVE for maintenance:

- Use MAINTRCF to SMP/E RECEIVE maintenance by specific FMID.
- Use MAINTRCS to SMP/E RECEIVE maintenance by specific SYSMOD.

Follow the instructions in the prologue of the sample members and submit the job to receive maintenance.

The return code **must** be zero (0) for all steps executed in this job. If you receive a different return code, contact StorageTek Support.

---

### Note –

- If you are performing the SMP/E RECEIVE from CD-ROM, modify the MAINTRCF and MAINTRCS members as follows:
    - Modify the SMPPTFIN DD statement to point to the *hlq.NCS62.PTF* data set.
    - Modify the SMPHOLD DD statement to point to the *hlq.NCS62.HDD* data set.
  - When installing NCS, you **must** SMP/E receive all maintenance from the corrective service tape or CD before performing an SMP/E APPLY and ACCEPT for the NCS base functions.
- 

---

## SMP/E APPLY Maintenance

Sample members MAINTAPF and MAINTAPS provide sample JCL used to perform an SMP/E APPLY for maintenance:

- Use MAINTAPF to SMP/E APPLY maintenance by specific FMID.
- Use MAINTAPS to SMP/E APPLY maintenance by specific SYSMOD.

Follow the instructions in the prologue of the sample members for necessary modifications and procedures for performing an SMP/E APPLY CHECK followed by an actual SMP/E APPLY. Submit the job to apply maintenance.

---

**Note –** You **must** specify the ASSEM option to the SMP/E statements in the sample JCL when the SMC JES3 FMID is included in the APPLY.

---

---

## SMP/E ACCEPT Maintenance

---

**Note** – Performing an SMP/E ACCEPT for maintenance is **optional**.

---

Sample members MAINTACF and MAINTACS provide sample JCL to perform an SMP/E ACCEPT for maintenance:

- Use MAINTACF to SMP/E ACCEPT maintenance by specific FMID.
- Use MAINTACS to SMP/E ACCEPT maintenance by specific SYSMOD.

Follow the instructions in the prologue of the sample members for necessary modifications and procedures for performing an SMP/E ACCEPT CHECK followed by an actual SMP/E ACCEPT. Submit the job to apply maintenance.

---

## Separate HELD NCS PTFs

Examine the output from the APPLY in the previous section to identify those PTFs that failed to be applied due to HOLDSYSTEM exception data. Examine the cover letters for those PTFs to determine if the PTFs are applicable to your environment. Generally, NCS SYSMODS with HOLDSYSTEM fall into two categories:

- SYSMODS that update the tape management system scratch conversion modules (SLUDRCA1, SLUDRTL, and SLUDRRMM).
- Those SYSMODS that have dependencies beyond control of the NCS SMP/E environment. For example, certain NCS PTFs may require a particular MVS PTF to be applied or you may need to update an automated operations package.

From the examination of the SYSMODS that were **not** applied due to HOLDSYSTEM exception data, create four lists of PTFs as follows:

list 1

Tape management system PTFs for a tape management system that is **not** installed at your site.

list 2

Tape management system PTFs where the tape management system is installed at your site and modification of the source is necessary.

list 3

Non-tape management system PTFs that **cannot** be applied because your site does **not** comply with the conditions defined in the PTF cover letters.

list 4

All other PTFs held for HOLDSYSTEM exception data. These are held PTFs that are applicable to your installation. Included are tape management system PTFs where the tape management system is installed at your site and you don't need to modify the source code.

## APPLY Applicable NCS HOLDSYSTEM SYSMODS

Use the following JCL to SMP/E APPLY applicable HOLDSYSTEM SYSMODS:

```
//jobname JOB .....
//S1      EXEC smpe-proc
//SMPCNTL DD *
    SET BDY(target-zone) .
    APPLY PTFS
        EXCLUDE(ptf1,ptf2,.....ptfn)
        GROUPEXTEND
        FORFMID(
            /* FMID-id */
        )
        BYPASS(HOLDSYSTEM)
        ASSEM
    .
/*
```

---

### Note –

- The EXCLUDEd PTFs should consist of all PTFs in List 1, List 2, and List 3 (see [“Separate HELD NCS PTFs” on page 85](#)).
  - See [“Reviewing the NCS FMIDs” on page 20](#) for a list of FMIDs.
-

## APPLY Tape Management SYSMODS Without an ASSEMBLE

```

/jobname JOB .....
//S1      EXEC smpe-proc
//SMPCNTL DD *
  SET BDY(target-zone) .
  APPLY PTFs
          EXCLUDE(ptf1,ptf2,.....,ptfn)
          GROUPEXTEND
          FORFMID(
                /* fmid-id */
                )
          BYPASS(HOLDSYSTEM) .
/*

```

The EXCLUDE list should specify only the PTFs in List 3 (see [“Separate HELD NCS PTFs” on page 85](#)). This APPLY installs all NCS SYSMODS held for HOLDSYSTEM exception data where the PTFs are for:

- A tape management system installed at your site where you have determined that the tape management components require modification.
- A tape management system that is **not** installed at your site.

---

**Note** – APPLYing the PTFs for Tape Management Systems (TMS) that are **not** installed at your site is desirable because:

---

- APPLYing these PTFs ensures that all TMS maintenance is current. This is important if you decide to change tape management systems. APPLYing these PTFs may also satisfy IFREQs.
- There is a separate module for each tape management system. Maintenance for one TMS will **not** affect other tape management systems.
- You should have no problem APPLYing these PTFs because the ASSEM option is **not** specified.

This APPLY does **not** generate an assembly for the NCS tape management system source modules because the ASSEM option is **not** specified. The SAMPLIB data set is updated with new source versions. If required, you can now modify the source and reassemble the relevant module(s).

After running the APPLY steps for HOLDSYSTEM SYSMODS and tape management SYSMODS without an ASSEMBLE, the only held PTFs that are **not** applied should be those you determined **cannot** be applied because you do **not** comply with their specific requirements (see [“Separate HELD NCS PTFs” on page 85](#)).



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